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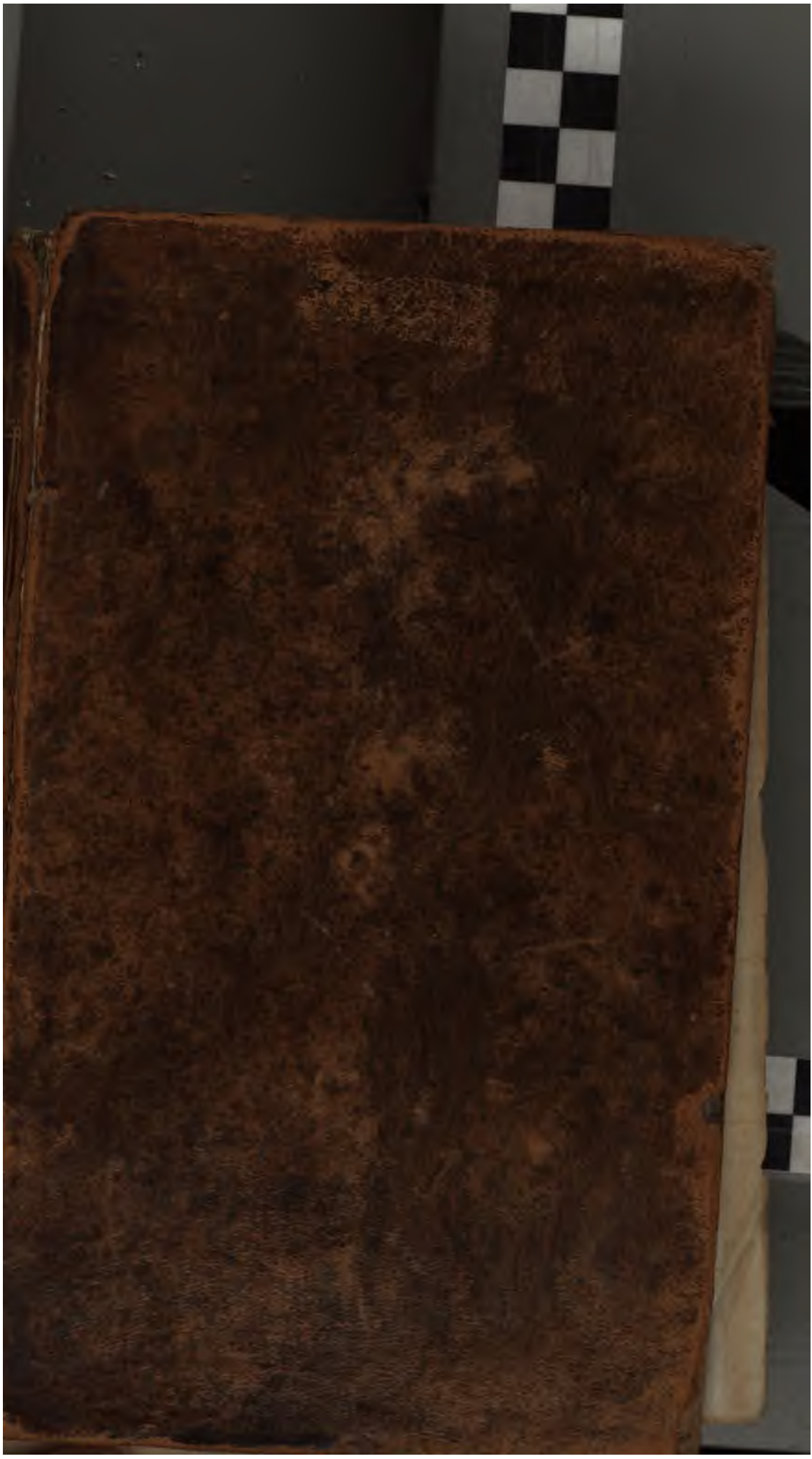

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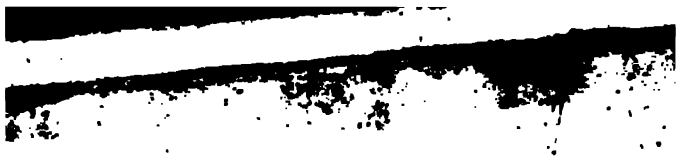

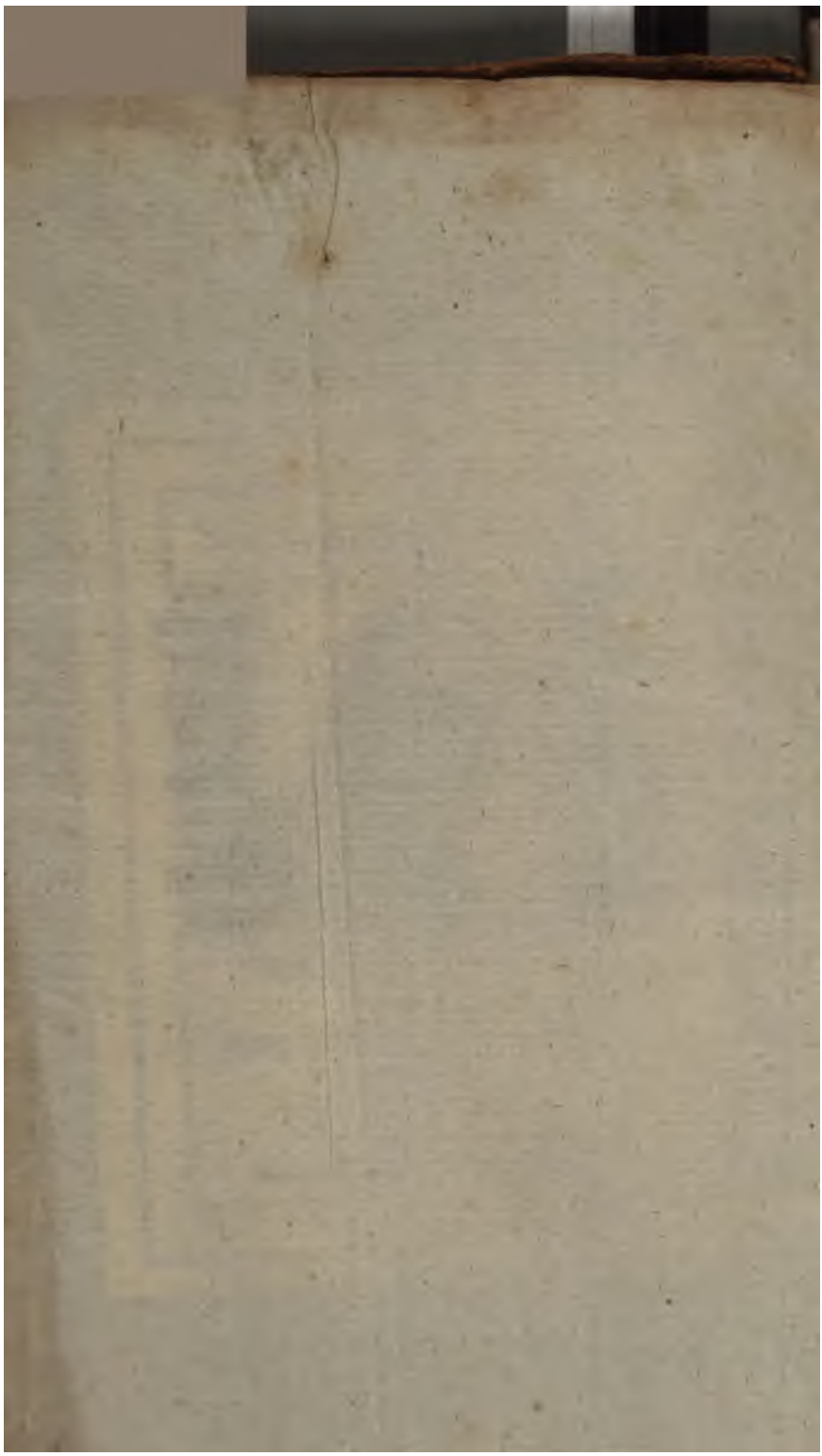

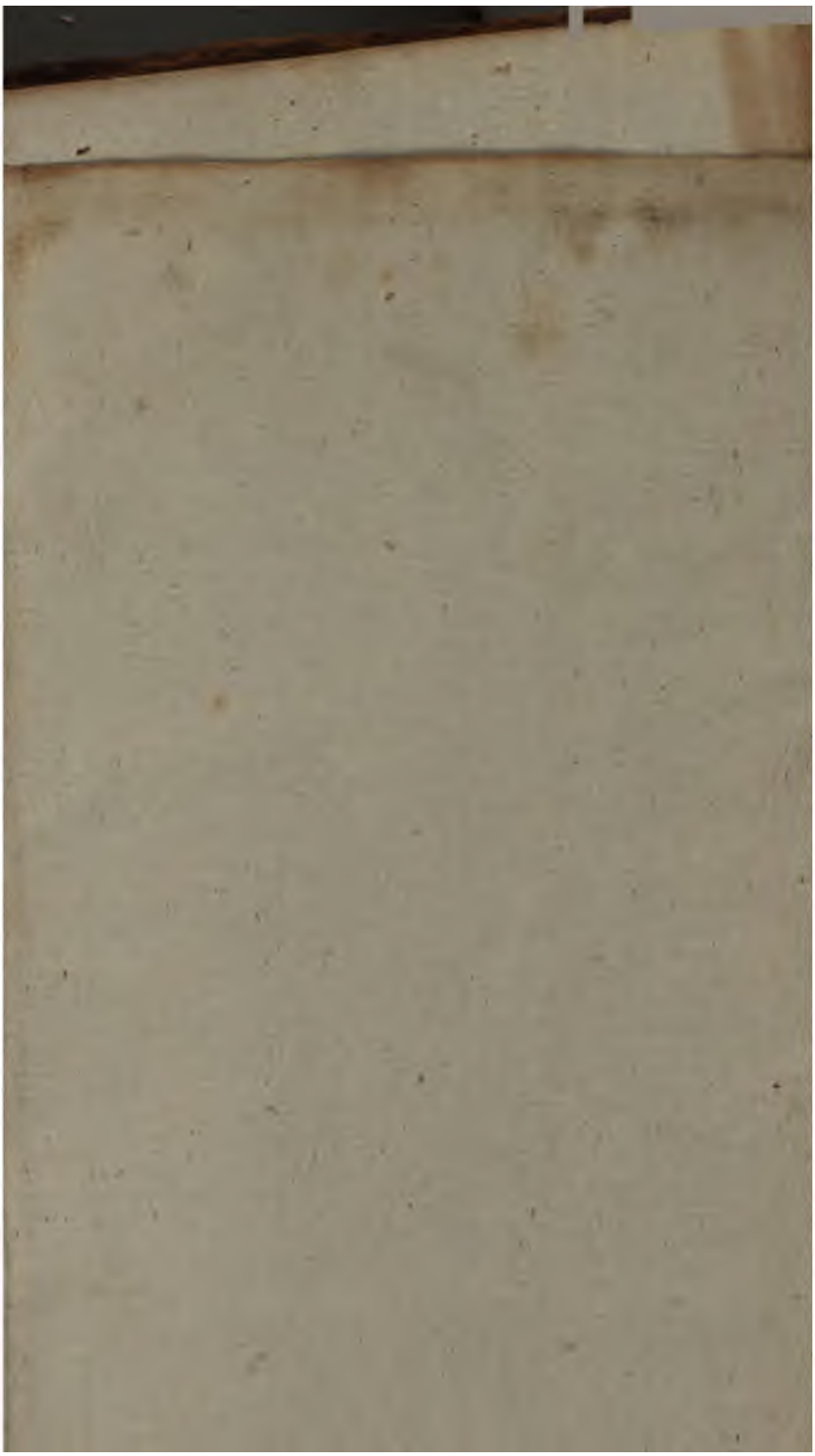

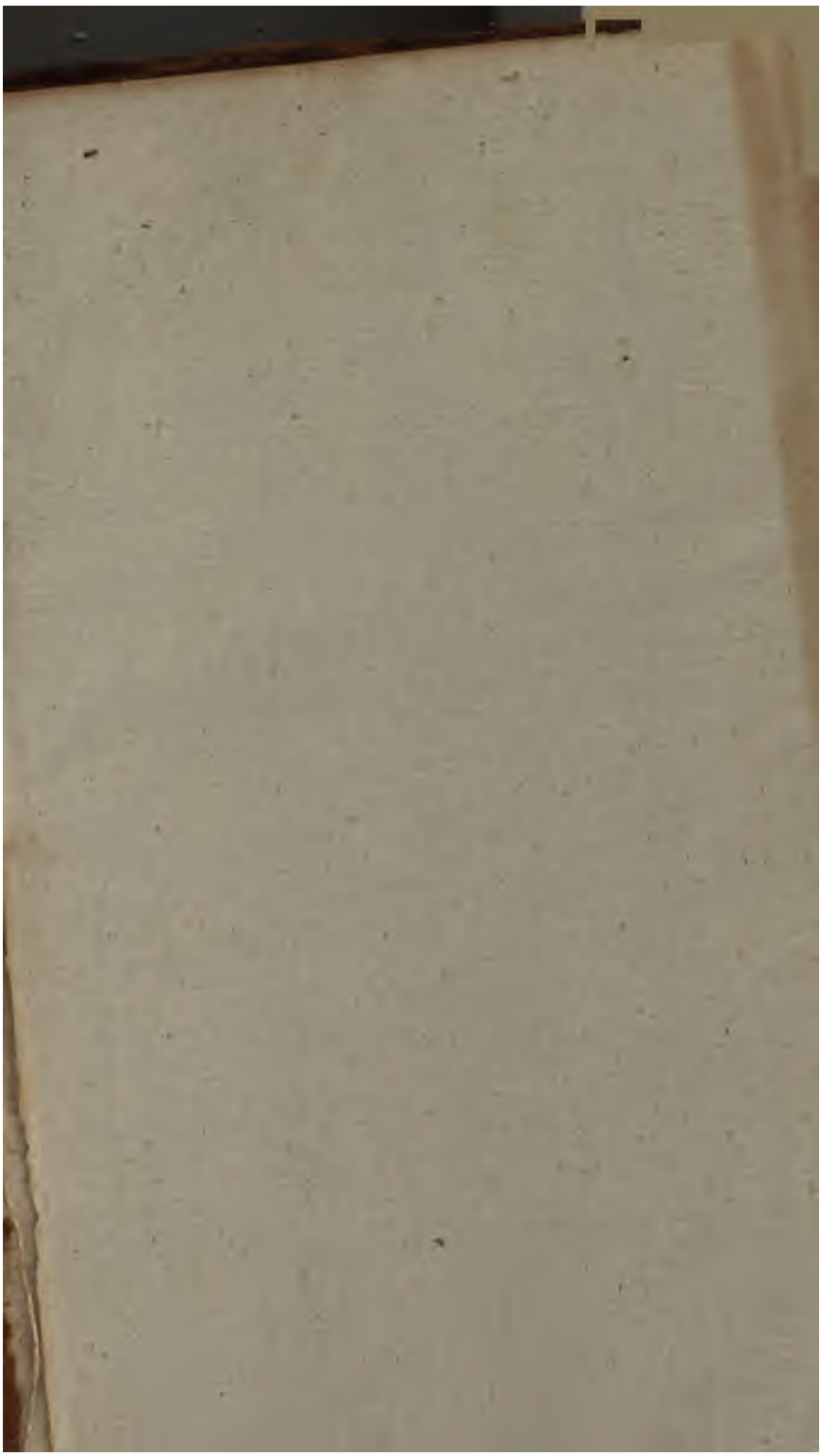

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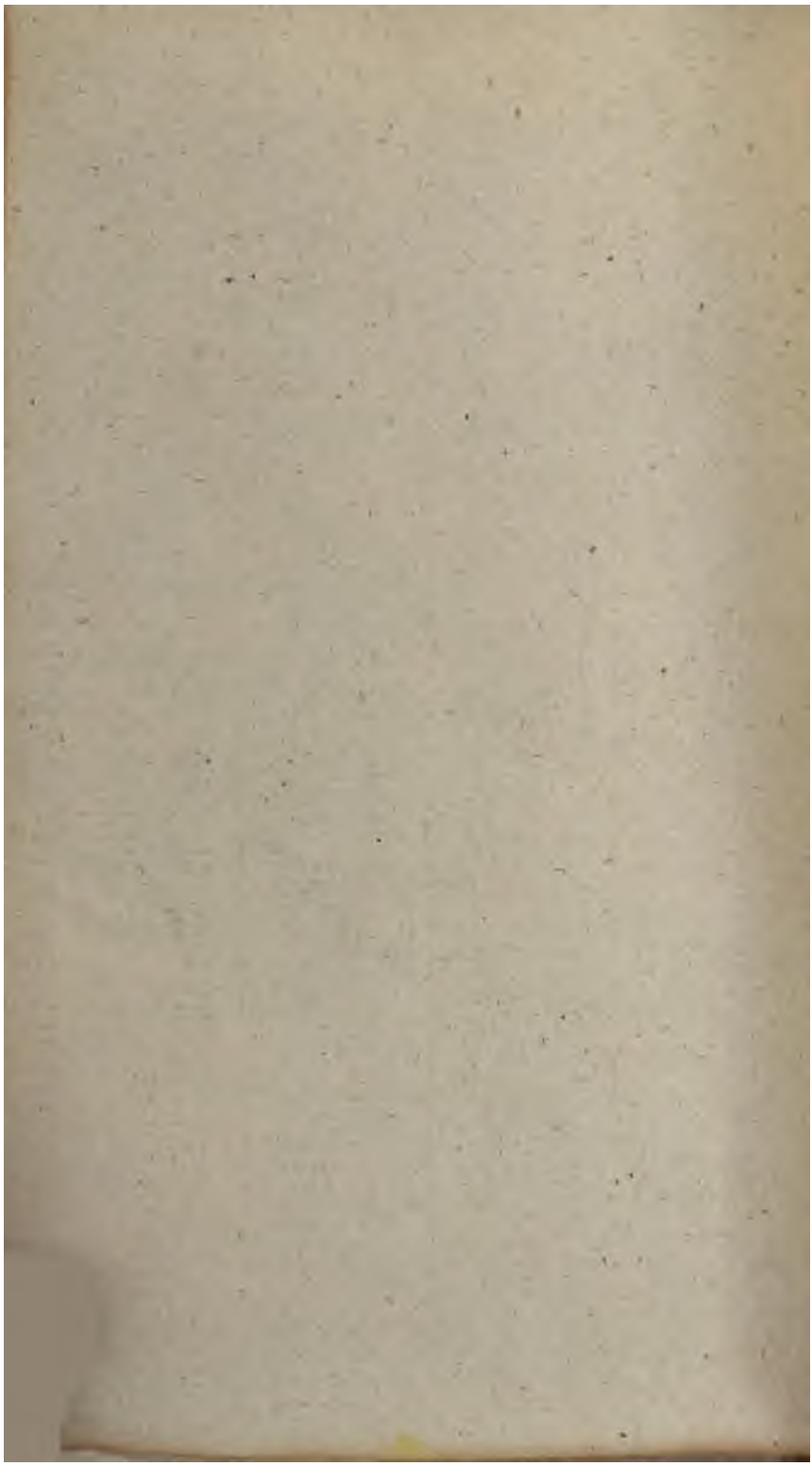

AN

ESSAY

CONCERNING

Human Underſtanding.

Written by JOHN LOCKE, Gent.

THE TWENTIETH EDITION.

TO WHICH ARE NOW ADDED,

I. An Analyſis of Mr. Locke's Doctrine of Ideas, on a large Sheet.
II. A Defence of Mr. Locke's Opinion concerning Perſonal Identity, with an Appendix.
III. A Treatiſe on the Conduct of the Underſtanding.
IV. Some Thoughts concerning Reading and Study for a Gentleman.
V. Elements of Natural Philoſophy.
VI. A New Method of a Common-Place-Book.

EXTRACTED FROM THE AUTHOR'S WORKS.

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BOOK III.

Of Words.

CHAP. VII.

Of particles.

SECT.

1. Particles connect parts, or whole ſentences together.
2. In them conſiſts the art of well ſpeaking.
3, 4. They ſhow what relation the mind gives to its own thoughts.
5. Inſtance in But.
6. This matter but lightly touched here.

CHAP. VIII.

Of abſtract and concrete terms.

SECT.

1. Abſtract terms not predicable one of another, and why.
2. They ſhow the difference of our ideas.

CHAP. IX.

Of the imperfection of words.

SECT.

1. Words are uſed for recording and communicating our thoughts.
2. Any words will ſerve for recording.
3. Communication by words, civil or philoſophical.
4. The imperfection of words is the doubtfulneſs of their ſignification.
5. Cauſes of their imperfection.
6. The names of mixed modes doubtful: firſt, becauſe the ideas they ſtand for, are ſo complex.
7. Secondly, becauſe they have no ſtandards.
8. Propriety not a ſufficient remedy.
9. The way of learning theſe names contributes alſo to their doubtfulneſs.
10. Hence unavoidable obſcurity in ancient authors.
11. Names of ſubſtances, of doubtful ſignification.
12. Names of ſubſtances referred, firſt, to real eſſences, that cannot be known.
13, 14. Secondly, to co-exiſting qualities, which are known but imperfectly.
15. With this imperfection they may ſerve for civil, but not well for philoſophical uſe.
16. Inſtance, liquor of the nerves.
17. Inſtance, gold.
18. The names of ſimple ideas, the leaſt doubtful.

19. And next to them, ſimple modes.
20. The moſt doubtful, are the names of very compounded mixed modes and ſubſtances.
21. Why this imperfection charged upon words.
22, 23. This ſhould teach us moderation in impoſing our own ſenſe of old authors.

CHAP. X.

Of the abuſe of words.

SECT.

1. Abuſe of words.
2, 3. Firſt, words without any, or without clear ideas.
4. Occaſioned by learning names, before the ideas they belong to.
5. Secondly, a ſteady application of them.
6. Thirdly, affected obſcurity, by wrong application.
7. Logic and diſpute have much contributed to this.
8. Calling it ſubtilty.
9. This learning very little benefits ſociety.
10. But deſtroys the inſtruments of knowledge and communication.
11. As uſeful as to confound the ſound of the letters.
12. This art has perplexed religion and juſtice.
13. And ought not to paſs for learning.
14. Fourthly, taking them for things.
15. Inſtance in matter.
16. This makes errours laſting.
17. Fifthly, ſetting them for what they cannot ſignify.
18. V. g. putting them for the real eſſences of ſubſtances.
19. Hence we think every change of our idea in ſubſtances, not to change the ſpecies.
20. The cauſe of this abuſe, a ſuppoſition of nature's working always regularly.
21. This abuſe contains two falſe ſuppoſitions.
22. Sixthly, a ſuppoſition that words have a certain and evident ſignification.
23. The ends of language: firſt, to convey our ideas.
24. Secondly, to do it with quickneſs.
25. Thirdly, therewith to convey the knowledge of things.
26—31. How men's words fail in all theſe.
32. How in ſubſtances.
33. How in modes and relations.
34. Seventhly, figurative ſpeech alſo an abuſe of language.

CHAP. XI.

Of the remedies of the foregoing imperfections and abuſes.

SECT.

1. They are worth ſeeking.
2. Are not eaſy.
3. But yet neceſſary to philoſophy.
4. Miſuſe of words, the cauſe of great errours.
5. Obſtinacy.
6. And wrangling.
7. Inſtance, bat and bird.
8. Firſt remedy, to uſe no word without an idea.
9. Secondly, to have diſtinct ideas annexed to them in modes.
10. And diſtinct and conformable in ſubſtances.
11. Thirdly, propriety.
12. Fourthly, to make known their meaning.
13. And that three ways.
14. Firſt,

14. First, in ſimple ideas by ſynonimous terms, or ſhowing.
15. Secondly, in mixed modes by definition.
16. Morality capable of demonſtration.
17. Definitions can make moral diſcourſes clear.
18. And is the only way.
19. Thirdly, in ſubſtances, by ſhowing and defining.
20, 21. Ideas of the leading qualities of ſubſtances, are beſt got by ſhowing.
22. The ideas of their powers, beſt by definition.
23. A reflection on the knowledge of ſpirits.
24. Ideas alſo of ſubſtances muſt be conformable to things.
25. Not eaſy to be made ſo.
26. Fifthly, by conſtancy in their ſignification.
27. When the variation is to be explained.

BOOK IV.

Of KNOWLEDGE and OPINION.

CHAP. I.

Of knowledge in general.

SECT.
1. Our knowledge converſant about our ideas.
2. Knowledge is the perception of the agreement, or diſagreement, of two ideas.
3. This agreement fourfold.
4. Firſt, of identity, or diverſity.
5. Secondly, relation.
6. Thirdly, of co-exiſtence.
7. Fourthly, of real exiſtence.
8. Knowledge actual or habitual.
9. Habitual knowledge, twofold.

CHAP. II.

Of the degrees of our knowledge.

SECT.
1. Intuitive.
2. Demonſtrative.
3. Depends on proofs.
4. But not ſo eaſy.
5. Not without precedent doubt.
6. Not ſo clear.
7. Each ſtep muſt have intuitive evidence.
8. Hence the miſtake ex præcognitis & præconceſſis.
9. Demonſtration not limited to quantity.
10—13. Why it has been ſo thought.
14. Senſitive knowledge of particular exiſtence.
15. Knowledge not always clear, where the ideas are ſo.

CHAP. III.

Of the extent of human knowledge.

SECT.
1. Firſt, no farther than we have ideas.
2. Secondly, no farther than we can perceive their agreement or diſagreement.
3. Thirdly, intuitive knowledge extends itſelf not to all the relations of all our ideas.
4. Fourthly,

4. Fourthly, not demonſtrative knowledge.
5. Fifthly, ſenſitive knowledge, narrower than either.
6. Sixthly, our knowledge, therefore, narrower than our ideas.
7. How far our knowledge reaches.
8. Firſt, our knowledge of identity and diverſity, as far as our ideas.
9. Secondly, of co-exiſtence, a very little way.
10. Becauſe the connexion between moſt ſimple ideas is unknown.
11. Eſpecially of ſecondary qualities.
12—14. And farther, becauſe all connexion between any ſecondary and primary qualities is undiſcoverable.
15. Of repugnancy to co-exiſt, larger.
16. Of the co-exiſtence of powers, a very little way.
17. Of ſpirits yet narrower.
18. Thirdly, of other relations, it is not eaſy to ſay how far. Morality capable of demonſtration.
19. Two things have made moral ideas thought incapable of demonſtration. Their complexedneſs and want of ſenſible repreſentations.
20. Remedies of thoſe difficulties.
21. Fourthly, of real exiſtence; we have an intuitive knowledge of our own, demonſtrative of God's, ſenſitive of ſome few other things.
22. Our ignorance great.
23. Firſt, one cauſe of it, want of ideas, either ſuch as we have no conception of, or ſuch as particularly we have not.
24. Becauſe of their remoteneſs, or,
25. Becauſe of their minuteneſs.
26. Hence no ſcience of bodies.
27. Much leſs of ſpirits.
28. Secondly, want of a diſcoverable connexion, between ideas we have.
29. Inſtances.
30. Thirdly, want of tracing our ideas.
31. Extent in reſpect of univerſality.

CHAP. IV.

Of the reality of our knowledge.

SECT.

1. Objection, knowledge placed in ideas, may be all bare viſion.
2, 3. Anſwer, not ſo, where ideas agree with things.
4. As, firſt, all ſimple ideas do.
5. Secondly, all complex ideas, except of ſubſtances.
6. Hence the reality of mathematical knowledge.
7. And of moral.
8. Exiſtence not required to make it real.
9. Nor will it be leſs true, or certain, becauſe moral ideas are of our own making and naming.
10. Miſ-naming diſturbs not the certainty of the knowledge.
11. Ideas of ſubſtances have their archetypes without us.
12. So far as they agree with theſe, ſo far our knowledge concerning them is real.

13. In our inquiries about ſubſtances, we muſt conſider ideas, and not confine our thoughts to names, or ſpecies ſuppoſed ſet out by names.
14, 15. Objection againſt a changeling being ſomething between man and beaſt anſwered.
16. Monſters.
17. Words and ſpecies.
18. Recapitulation.

CHAP. V.

Of truth in general.

SECT.
1. What truth is.
2. A right joining, or ſeparating of ſigns; i. e. ideas or words.
3. Which make mental, or verbal propoſitions.
4. Mental propoſitions are very hard to be treated of.
5. Being nothing but joining, or ſeparating ideas, without words.
6. When mental propoſitions contain real truth, and when verbal.
7. Objection againſt verbal truth, that thus it may be all chimerical.
8. Anſwered, real truth is about ideas agreeing to things.
9. Falſhood is the joining of names, otherwiſe than their ideas agree.
10. General propoſitions to be treated of more at large.
11. Moral and metaphyſical truth.

CHAP. VI.

Of univerſal propoſitions, their truth and certainty.

SECT.
1. Treating of words, neceſſary to knowledge.
2. General truths hardly to be underſtood, but in verbal propoſitions.
3. Certainty two-fold, of truth, and of knowledge.
4. No propoſition can be known to be true, where the eſſence of each ſpecies mentioned, is not known.
5. This more particularly concerns ſubſtances.
6. The truth of few univerſal propoſitions concerning ſubſtances, is to be known.
7. Becauſe co-exiſtence of ideas in few caſes is to be known.
8, 9. Inſtance in gold.
10. As far as any ſuch co-exiſtence can be known, ſo far univerſal propoſitions may be certain. But this will go but a little way, becauſe,
11, 12. The qualities, which make our complex ideas of ſubſtances, depend moſtly on external, remote, and unperceived cauſes.
13. Judgment may reach farther, but that is not knowledge.
14. What is requiſite for our knowledge of ſubſtances.
15. Whilſt our ideas of ſubſtances contain not their real conſtitutions, we can make but few general, certain propoſitions concerning them.
16. Wherein lies the general certainty of propoſitions.

CHAP. VII.

Of maxims.

SECT.
1. They are ſelf-evident.
2. Wherein that ſelf-evidence conſiſts.
3. Self-evidence not peculiar to received axioms:
4. Firſt

4. Firſt, as to identity and diverſity, all propoſitions are equally ſelf-evident.
5. Secondly, in co-exiſtence, we have few ſelf-evident propoſitions.
6. Thirdly, in other relations we may have.
7. Fourthly, concerning real exiſtence, we have none.
8. Theſe axioms do not much influence our other knowledge.
9. Becauſe they are not the truths the firſt known.
10. Becauſe on them the other parts of our knowledge do not depend.
11. What uſe theſe general maxims have.
12. Maxims, if care be not taken in the uſe of words, may prove contradictions.
13. Inſtance in vacuum.
14. They prove not the exiſtence of things without us.
15. Their application dangerous about complex ideas.
16—18. Inſtance in man.
19. Little uſe of theſe maxims, in proofs, where we have clear and diſtinct ideas.
20. Their uſe dangerous, where our ideas are confuſed.

CHAP. VIII.

Of trifling propoſitions.

SECT.

1. Some propoſitions bring no increaſe to our knowledge.
2, 3. As, firſt, identical propoſitions.
4. Secondly, when a part of any complex idea is predicated of the whole.
5. As part of the definition of the term defined.
6. Inſtance, man and palfry.
7. For this teaches but the ſignification of words.
8. But no real knowledge.
9. General propoſitions, concerning ſubſtances, are often trifling.
10. And why.
11. Thirdly, uſing words variouſly, is trifling with them.
12. Marks of verbal propoſitions. Firſt, predication in abſtract.
13. Secondly, a part of the definition, predicated of any term.

CHAP. IX.

Of our knowledge of exiſtence.

SECT.

1. General, certain propoſitions concern not exiſtence.
2. A threefold knowledge of exiſtence.
3. Our knowledge of our own exiſtence, is intuitive.

CHAP. X.

Of the exiſtence of a God.

SECT.

1. We are capable of knowing certainly that there is a God.
2. Man knows that he himſelf is.
3. He knows alſo, that nothing cannot produce a being, therefore ſomething eternal.
4. That eternal being muſt be moſt powerful.
5. And moſt knowing.
6. And therefore God.
7. Our idea of a moſt perfect being, not the ſole proof of a God.
8. Something from eternity.
9. Two ſorts of beings, cogitative and incogitative.
10. In-

10. Incogitative being cannot produce a cogitative.
11, 12. Therefore there has been an eternal wiſdom.
13. Whether material, or no.
14. Not material, firſt, becauſe every particle of matter is not cogitative.
15. Secondly, one particle alone of matter cannot be cogitative.
16. Thirdly, a ſyſtem of incogitative matter cannot be cogitative.
17. Whether in motion or at reſt.
18, 19. Matter not co-eternal with an eternal mind.

CHAP. XI.

Of the knowledge of the exiſtence of other things.

SECT.
1. Is to be had only by ſenſation.
2. Inſtance, whiteneſs of this paper.
3. This, though not ſo certain as demonſtration, yet may be called knowledge, and proves the exiſtence of things without us.
4. Firſt, becauſe we cannot have them but by the inlets of the ſenſes.
5. Secondly, becauſe an idea from actual ſenſation, and another from memory, are very diſtinct perceptions.
6. Thirdly, pleaſure or pain, which accompanies actual ſenſation, accompanies not the returning of thoſe ideas, without the external objects.
7. Fourthly, our ſenſes aſſiſt one another's teſtimony of the exiſtence of outward things.
8. This certainty is as great as our condition needs.
9. But reaches no farther than actual ſenſation.
10. Folly to expect demonſtration in every thing.
11. Paſt exiſtence is known by memory.
12. The exiſtence of ſpirits not knowable.
13. Particular propoſitions concerning exiſtence, are knowable.
14. And general propoſitions concerning abſtract ideas.

CHAP. XII.

Of the improvement of our knowledge.

SECT.
1. Knowledge is not from maxims.
2. (The occaſion of that opinion.)
3. But from the comparing clear and diſtinct ideas.
4. Dangerous to build upon precarious principles.
5. This no certain way to truth.
6. But to compare clear, complete ideas under ſteady names.
7. The true method of advancing knowledge, is by conſidering our abſtract ideas.
8. By which, morality, alſo, may be made clearer.
9. But knowledge of bodies is to be improved only by experience.
10. This may procure us convenience, not ſcience.
11. We are fitted for moral knowledge, and natural improvements.
12. But muſt beware of hypotheſes and wrong principles.

13. The

13. The true uſe of hypotheſes.
14. Clear and diſtinct ideas, with ſettled names, and the finding of thoſe, which ſhow their agreement or diſagreement, are the ways to enlarge our knowledge.
15. Mathematics an inſtance of it.

CHAP. XIII.

Some other conſiderations concerning our knowledge.

SECT.
1. Our knowledge partly neceſſary, partly voluntary.
2. The application voluntary; but we know as things are, not as we pleaſe.
3. Inſtances in number, and in natural religion.

CHAP. XIV.

Of judgment.

SECT.
1. Our knowledge being ſhort, we want ſomething elſe.
2. What uſe to be made of this twilight eſtate.
3. Judgment ſupplies the want of knowledge.
4. Judgment is the preſuming things to be ſo, without perceiving it.

CHAP. XV.

Of probability.

SECT.
1. Probability is the appearance of agreement, upon fallible proofs.
2. It is to ſupply the want of knowledge.
3. Being that, which makes us preſume things to be true, before we know them to be ſo.
4. The grounds of probability are two; conformity with our own experience, or the teſtimony of others experience.
5. In this all the arguments, pro and con, ought to be examined, before we come to a judgment.
6. They being capable of great variety.

CHAP. XVI.

Of the degrees of aſſent.

SECT.
1. Our aſſent ought to be regulated by the grounds of probability.
2. Theſe cannot be always actually in view, and then we muſt content ourſelves with the remembrance, that we once ſaw ground for ſuch a degree of aſſent.
3. The ill conſequence of this, if our former judgment were not rightly made.
4. The right uſe of it, is mutual charity and forbearance.
5. Probability is either of matter of fact, or ſpeculation.
6. The concurrent experience of all other men with ours produces aſſurance approaching to knowledge.
7. Unqueſtionable teſtimony and experience for the moſt part produce confidence.
8. Fair teſtimony, and the nature of the thing indifferent, produces alſo confident belief.

9. Experience and teſtimonies claſhing, infinitely vary the degrees of probability.
10. Traditional teſtimonies, the farther removed, the leſs their proof.
11. Yet hiſtory is of great uſe.
12. In things, which ſenſe cannot diſcover, analogy is the great rule of probability.
13. One caſe, where contrary experience leſſens not the teſtimony.
14. The bare teſtimony of revelation is the higheſt certainty.
15. The next is demonſtration by reaſoning.
16. To ſupply the narrowneſs of this, we have nothing but judgment upon probable reaſoning.
17. Intuition, demonſtration, judgment.
18. Conſequences of words, and conſequences of ideas.
19. Four ſorts of arguments: firſt, ad verecundiam.
20. Secondly, ad ignorantiam.
21. Thirdly, ad hominem.
22. Fourthly, ad judicium.
23. Above, contrary, and according to reaſon.
24. Reaſon and faith not oppoſite.

CHAP. XVII.

Of reaſon.

SECT.

1. Various ſignifications of the word reaſon.
2. Wherein reaſoning conſiſts.
3. Its four parts.
4. Syllogiſm, not the great inſtrument of reaſon.
5. Helps little in demonſtration, leſs in probability.
6. Serves not to increaſe our knowledge, but fence with it.
7. Other helps ſhould be ſought.
8. We reaſon about particulars.
9. Firſt, reaſon fails us for want of ideas.
10. Secondly, becauſe of obſcure and imperfect ideas.
11. Thirdly, for want of intermediate ideas.
12. Fourthly, becauſe of wrong principles.
13. Fifthly, becauſe of doubtful terms.
14. Our higheſt degree of knowledge is intuitive, without reaſoning.

CHAP. XVIII.

Of faith and reaſon, and their diſtinct provinces.

SECT.

1. Neceſſary to know their boundaries.
2. Faith and reaſon what, as contra-diſtinguiſhed.
3. No new ſimple idea can be conveyed by traditional revelation.
4. Traditional revelation may make us know propoſitions, knowable alſo by reaſon, but not with the ſame certainty that reaſon doth.
5. Revelation cannot be admitted, againſt the clear evidence of reaſon.
6. Traditional revelation much leſs.
7. Things above reaſon,
8. Or not contrary to reaſon, if revealed, are matter of faith.
9. Revelation in matters where reaſon cannot judge, or but probably, ought to be hearkened to.
10. In

10. In matters, where reaſon can afford certain knowledge, that is to be hearkened to.
11. If the boundaries be not ſet between faith and reaſon, no enthuſiaſm, or extravagancy in religion, can be contradicted.

CHAP. XIX.

Of enthuſiaſm.

SECT.
1. Love of truth neceſſary.
2. A forwardneſs to dictate, from whence.
3. Force of enthuſiaſm.
4. Reaſon and revelation.
5. Riſe of enthuſiaſm.
6, 7. Enthuſiaſm.
8, 9. Enthuſiaſm miſtaken for ſeeing and feeling.
10. Enthuſiaſm, how to be diſcovered.
11. Enthuſiaſm fails of evidence, that the propoſition is from God.
12. Firmneſs of perſuaſion, no proof that any propoſition is from God.
13. Light in the mind, what.
14. Revelation muſt be judged of by reaſon.
15, 16. Belief, no proof of revelation.

CHAP. XX.

Of wrong aſſent, or errour.

SECT.
1. Cauſes of errour.
2. Firſt, want of proofs.
3. Obj. What ſhall become of thoſe who want them, anſwered.
4. People hindered from inquiry.
5. Secondly, want of ſkill to uſe them.
6. Thirdly, want of will to uſe them.
7. Fourthly, wrong meaſure of probability; whereof,
8—10. Firſt, doubtful propoſitions, taken for principles.
11. Secondly, received hypotheſes.
12. Thirdly, predominant paſſions.
13. The means of evading probabilities, 1ſt, ſuppoſed fallacy.
14. 2dly, ſuppoſed arguments for the contrary.
15. What probabilities determine the aſſent.
16. Where it is in our power to ſuſpend it.
17. Fourthly, authority.
18. Men not in ſo many errours, as is imagined.

CHAP. XXI.

Of the diviſion of the ſciences.

SECT.
1. Three ſorts
2. Firſt, Phyſica.
3. Secondly, Practica.
4. Thirdly, Σημειωτικὴ.
5. This is the firſt diviſion of the objects of knowledge.

OF

Human Underſtanding.

BOOK III. CHAP. VII.

Of Particles.

§. 1. BESIDES words which are names of ideas in the mind, there are a great many others there are made uſe of, to ſignify the connexion that the mind gives to ideas, or propoſitions, one with another. The mind, in communicating its thought to others, does not only need ſigns of the ideas it has then before it, but others alſo, to ſhow or intimate ſome particular action of its own, at that time, relating to thoſe ideas. This it does ſeveral ways; as is, and is not, are the general marks of the mind, affirming or denying. But beſides affirmation or negation, without which there is in words no truth or falſhood, the mind does, in declaring its ſentiments to others, connect not only the parts of propoſitions, but whole ſentences one to another, with their ſeveral relations and dependencies, to make a coherent diſcourſe.

Particles connect parts, or whole ſentences together.

§. 2. The words, whereby it ſignifies what connexion it gives to the ſeveral affirmations and negations, that it unites in one continued reaſoning or narration, are generally called particles; and it is in the right uſe of theſe, that more particularly conſiſts the clearneſs and beauty of a good ſtyle. To think well, it is not enough that a

In them conſiſts the art of well-ſpeaking.

man has ideas clear and diſtinct in his thoughts, nor that he obſerves the agreement or diſagreement of ſome of them; but he muſt think in train, and obſerve the dependence of his thoughts and reaſonings upon one another. And to expreſs well ſuch methodical and rational thoughts, he muſt have words to ſhow what connexion, reſtriction, diſtinction, oppoſition, emphaſis, &c. he gives to each reſpective part of his diſcourſe. To miſtake in any of theſe, is to puzzle, inſtead of informing his hearer; and therefore it is that thoſe words which are not truly by themſelves the names of any ideas, are of ſuch conſtant and indiſpenſable uſe in language, and do much contribute to men's well expreſſing themſelves.

They ſhow what relation the mind gives to its own thoughts.

§. 3. This part of grammar has been perhaps as much neglected, as ſome others over-diligently cultivated. It is eaſy for men to write, one after another, of caſes and genders, moods and tenſes, gerunds and ſupines: in theſe, and the like, there has been great diligence uſed; and particles themſelves, in ſome languages, have been, with great ſhow of exactneſs, ranked into their ſeveral orders. But though prepoſitions and conjunctions, &c. are names well known in grammar, and the particles contained under them carefully ranked into their diſtinct ſubdiviſions; yet he who would ſhow the right uſe of particles, and what ſignificancy and force they have, muſt take a little more pains, enter into his own thoughts, and obſerve nicely the ſeveral poſtures of his mind in diſcourſing.

§. 4. Neither is it enough, for the explaining of theſe words, to render them, as is uſual in dictionaries, by words of another tongue which come neareſt to their ſignification: for what is meant by them is commonly as hard to be underſtood in one, as another language. They are all marks of ſome action, or intimation of the mind; and therefore to underſtand them rightly, the ſeveral views, poſtures, ſtands, turns, limitations, and exceptions, and ſeveral other thoughts of the mind, for *which we* have either none, or very deficient names, are *diligently to be* ſtudied. Of theſe there is a great variety,

riety, much exceeding the number of particles that moſt languages have to expreſs them by; and therefore it is not to be wondered that moſt of theſe particles have divers, and ſometimes almoſt oppoſite ſignifications. In the Hebrew tongue there is a particle conſiſting of but one ſingle letter, of which there are reckoned up, as I remember, ſeventy, I am ſure above fifty ſeveral ſignifications.

§. 5. But is a particle, none more familiar in our language; and he that ſays it is a diſcretive conjunction, and that it anſwers *ſed* in Latin, or *mais* in French, thinks he has ſufficiently explained it. But it ſeems to me to intimate ſeveral relations the mind gives to the ſeveral propoſitions or parts of them, which it joins by this monoſyllable. Inſtance in But.

Firſt, "but to ſay no more:" here it intimates a ſtop of the mind in the courſe it was going, before it came quite to the end of it.

Secondly, "I ſaw but two plants:" here it ſhows, that the mind limits the ſenſe to what is expreſſed, with a negation of all other.

Thirdly, "you pray; but it is not that God would bring you to the true religion,"

Fourthly, "but that he would confirm you in your own." The firſt of theſe Buts intimates a ſuppoſition in the mind of ſomething otherwiſe than it ſhould be; the latter ſhows, that the mind makes a direct oppoſition between that, and what goes before it.

Fifthly, "all animals have ſenſe; but a dog is an animal:" here it ſignifies little more, but that the latter propoſition is joined to the former, as the minor of a ſyllogiſm.

§. 6. To theſe, I doubt not, might be added a great many other ſignifications of this particle, if it were my buſineſs to examine it in its full latitude, and conſider it in all the places it is to be found: which if one ſhould do, I doubt, whether in all thoſe manners it is made uſe of, it would deſerve the title of diſcretive, which grammarians give to it. But I intend not here a full expli- This matter but lightly touched here.

explication of this ſort of ſigns. The inſtances I have given in this one, may give occaſion to reflect on their uſe and force in language, and lead us into the contemplation of ſeveral actions of our minds in diſcourſing, which it has found a way to intimate to others by theſe particles; ſome whereof conſtantly, and others in certain conſtructions, have the ſenſe of a whole ſentence contained in them.

CHAP. VIII.

Of Abſtract and Concrete Terms.

Abſtract terms not predicable one of another, and why.

§. 1. THE ordinary words of language, and our common uſe of them, would have given us light into the nature of our ideas, if they had been but conſidered with attention. The mind, as has been ſhown, has a power to abſtract its ideas, and ſo they become eſſences, general eſſences, whereby the ſorts of things are diſtinguiſhed. Now each abſtract idea being diſtinct, ſo that of any two the one can never be the other, the mind will, by its intuitive knowledge, perceive their difference; and therefore in propoſitions no two whole ideas can ever be affirmed one of another. This we ſee in the common uſe of language, which permits not any two abſtract words, or names of abſtract ideas, to be affirmed one of another. For how near of kin ſoever they may ſeem to be, and how certain ſoever it is, that man is an animal, or rational, or white, yet every one at firſt hearing perceives the falſhood of theſe propoſitions; humanity is animality, or rationality, or whiteneſs: and this is as evident, as any of the moſt allowed maxims. All our affirmations then are only inconcrete, which is the affirming, not one abſtract idea to be another, but one abſtract idea to be joined to *another; which* abſtract ideas, in ſubſtances, may be of *any ſort; in* all the reſt, are little elſe but of relations; and

and in ſubſtances, the moſt frequent are of powers; v. g. "a man is white," ſignifies, that the thing that has the eſſence of a man, has alſo in it the eſſence of whiteneſs, which is nothing but a power to produce the idea of whiteneſs in one, whoſe eyes can diſcover ordinary objects; or "a man is rational," ſignifies that the ſame thing that hath the eſſence of a man, hath alſo in it the eſſence of rationality, i. e. a power of reaſoning.

They ſhow the difference of our ideas.

§. 2. This diſtinction of names ſhows us alſo the difference of our ideas: for if we obſerve them, we ſhall find that our ſimple ideas have all abſtract, as well as concrete names; the one whereof is (to ſpeak the language of grammarians) a ſubſtantive, the other an adjective; as whiteneſs, white, ſweetneſs, ſweet. The like alſo holds in our ideas of modes and relations; as juſtice, juſt; equality, equal; only with this difference, that ſome of the concrete names of relations, amongſt men chiefly, are ſubſtantives; as paternitas, pater; whereof it were eaſy to render a reaſon. But as to our ideas of ſubſtances, we have very few or no abſtract names at all. For though the ſchools have introduced animalitas, humanitas, corporietas, and ſome others; yet they hold no proportion with that infinite number of names of ſubſtances, to which they never were ridiculous enough to attempt the coining of abſtract ones: and thoſe few that the ſchools forged, and put into the mouths of their ſcholars, could never yet get admittance into common uſe, or obtain the licence of public approbation. Which ſeems to me at leaſt to intimate the confeſſion of all mankind, that they have no ideas of the real eſſences of ſubſtances, ſince they have not names for ſuch ideas: which no doubt they would have had, had not their conſciouſneſs to themſelves of their ignorance of them kept them from ſo idle an attempt. And therefore though they had ideas enough to diſtinguiſh gold from a ſtone, and metal from wood; yet they but timorouſly ventured on ſuch terms, as aurietas and ſaxietas, metallietas and lignietas, or the like names, which ſhould pretend to ſignify the real eſſences of thoſe ſubſtances, whereof they knew they had no ideas. And indeed it

was only the doctrine of ſubſtantial forms, and the confidence of miſtaken pretenders to a knowledge that they had not, which firſt coined, and then introduced animalitas, and humanitas, and the like; which yet went very little farther than their own ſchools, and could never get to be current amongſt underſtanding men. Indeed, humanitas was a word familiar amongſt the Romans, but in a far different ſenſe, and ſtood not for the abſtract eſſence of any ſubſtance; but was the abſtracted name of a mode, and its concrete humanus, not homo.

CHAP. IX.

Of the Imperfection of Words.

Words are uſed for recording and communicating our thoughts.

§. 1. FROM what has been ſaid in the foregoing chapters, it is eaſy to perceive what imperfection there is in language, and how the very nature of words makes it almoſt unavoidable for many of them to be doubtful and uncertain in their ſignifications. To examine the perfection or imperfection of words, it is neceſſary firſt to conſider their uſe and end: for as they are more or leſs fitted to attain that, ſo they are more or leſs perfect. We have, in the former part of this diſcourſe, often upon occaſion mentioned a double uſe of words.

Firſt, one for the recording of our own thoughts.

Secondly, the other for the communicating of our thoughts to others.

Any words will ſerve for recording.

§. 2. As to the firſt of theſe, for the recording our own thoughts for the help of our own memories, whereby, as it were, we talk to ourſelves, any words will ſerve the turn. For ſince ſounds are voluntary and indifferent ſigns of any ideas, a man may uſe what words he pleaſes, to ſignify his own ideas to himſelf: and there will be *no imperfection* in them, if he conſtantly uſe the ſame

ſign

ſign for the ſame idea; for then he cannot fail of having his meaning underſtood, wherein conſiſts the right uſe and perfection of language.

Communication by words civil or philoſophical.

§. 3. Secondly, as to communication of words, that too has a double uſe.

I. Civil.

II. Philoſophical.

Firſt, by their civil uſe, I mean ſuch a communication of thoughts and ideas by words, as may ſerve for the upholding common converſation and commerce, about the ordinary affairs and conveniencies of civil life, in the ſocieties of men one amongſt another.

Secondly, by the philoſophical uſe of words, I mean ſuch an uſe of them, as may ſerve to convey the preciſe notions of things, and to expreſs, in general propoſitions, certain and undoubted truths, which the mind may reſt upon, and be ſatisfied with, in its ſearch after true knowledge. Theſe two uſes are very diſtinct; and a great deal leſs exactneſs will ſerve in the one than in the other, as we ſhall ſee in what follows.

The imperfection of words is the doubtfulneſs of their ſignification.

§. 4. The chief end of language in communication being to be underſtood, words ſerve not well for that end, neither in civil nor philoſophical diſcourſe, when any word does not excite in the hearer the ſame idea which it ſtands for in the mind of the ſpeaker. Now ſince ſounds have no natural connexion with our ideas, but have all their ſignification from the arbitrary impoſition of men, the doubtfulneſs and uncertainty of their ſignification, which is the imperfection we here are ſpeaking of, has its cauſe more in the ideas they ſtand for, than in any incapacity there is in one ſound more than in another, to ſignify any idea: for in that regard they are all equally perfect.

That then which makes doubtfulneſs and uncertainty in the ſignification of ſome more than other words, is the difference of ideas they ſtand for.

Cauſes of their imperfection.

§. 5. Words having naturally no ſignification, the idea which each ſtands for muſt be learned and retained by thoſe who would exchange thoughts, and hold intelligible

diſcourſe with others in any language. But this is hardeſt to be done, where,

Firſt, the ideas they ſtand for are very complex, and made up of a great number of ideas put together.

Secondly, where the ideas they ſtand for have no certain connexion in nature; and ſo no ſettled ſtandard, any where in nature exiſting, to rectify and adjuſt them by.

Thirdly, when the ſignification of the word is referred to a ſtandard, which ſtandard is not eaſy to be known.

Fourthly, where the ſignification of the word, and the real eſſence of the thing, are not exactly the ſame.

Theſe are difficulties that attend the ſignification of ſeveral words that are intelligible. Thoſe which are not intelligible at all, ſuch as names ſtanding for any ſimple ideas, which another has not organs or faculties to attain; as the names of colours to a blind man, or ſounds to a deaf man; need not here be mentioned.

In all theſe caſes we ſhall find an imperfection in words, which I ſhall more at large explain, in their particular application to our ſeveral ſorts of ideas: for if we examine them, we ſhall find that the names of mixed modes are moſt liable to doubtfulneſs and imperfection, for the two firſt of theſe reaſons; and the names of ſubſtances chiefly for the two latter.

The names of mixed modes doubtful. Firſt, becauſe the ideas they ſtand for are ſo complex.

§. 6. Firſt the names of mixed modes are many of them liable to great uncertainty and obſcurity in their ſignification.

I. Becauſe of that great compoſition theſe complex ideas are often made up of. To make words ſerviceable to the end of communication, it is neceſſary (as has been ſaid) that they excite in the hearer exactly the ſame idea they ſtand for in the mind of the ſpeaker. Without this, men fill one another's heads with noiſe and ſounds; but convey not thereby their thoughts, and lay not before one another their ideas, which is the end of diſcourſe and language. But when a word ſtands for a very complex idea that is compounded and decompounded, it is *not eaſy for men to* form and retain that idea ſo exactly,

as

as to make the name in common uſe ſtand for the ſame preciſe idea, without any the leaſt variation. Hence it comes to paſs, that men's names of very compound ideas, ſuch as for the moſt part are moral words, have ſeldom, in two different men, the ſame preciſe ſignification; ſince one man's complex idea ſeldom agrees with another's, and often differs from his own, from that which he had yeſterday, or will have to-morrow.

Secondly, becauſe they have no ſtandards.

§. 7. II. Becauſe the names of mixed modes, for the moſt part, want ſtandards in nature, whereby men may rectify and adjuſt their ſignifications; therefore they are very various and doubtful. They are aſſemblages of ideas put together at the pleaſure of the mind, purſuing its own ends of diſcourſe, and ſuited to its own notions; whereby it deſigns not to copy any thing really exiſting, but to denominate and rank things, as they come to agree with thoſe archetypes or forms it has made. He that firſt brought the word ſham, or wheedle, or banter, in uſe, put together, as he thought fit, thoſe ideas he made it ſtand for: and as it is with any new names of modes, that are now brought into any language; ſo it was with the old ones, when they were firſt made uſe of. Names therefore that ſtand for collections of ideas which the mind makes at pleaſure, muſt needs be of doubtful ſignification, when ſuch collections are no where to be found conſtantly united in nature, nor any patterns to be ſhown whereby men may adjuſt them. What the word murder, or ſacrilege, &c. ſignifies, can never be known from things themſelves: there be many of the parts of thoſe complex ideas, which are not viſible in the action itſelf; the intention of the mind, or the relation of holy things, which make a part of murder or ſacrilege, have no neceſſary connexion with the outward and viſible action of him that commits either: and the pulling the trigger of the gun, with which the murder is committed, and is all the action that perhaps is viſible, has no natural connexion with thoſe other ideas that make up the complex one, named murder. They have their union and combination only from the underſtanding, which unites them under one name: but

uniting them without any rule or pattern, it cannot be but that the ſignification of the name that ſtands for ſuch voluntary collections ſhould be often various in the minds of different men, who have ſcarce any ſtanding rule to regulate themſelves and their notions by, in ſuch arbitrary ideas.

Propriety not a ſufficient remedy.

§. 8. It is true, common uſe, that is the rule of propriety, may be ſuppoſed here to afford ſome aid, to ſettle the ſignification of language; and it cannot be denied, but that in ſome meaſure it does. Common uſe regulates the meaning of words pretty well for common converſation; but no-body having an authority to eſtabliſh the preciſe ſignification of words, nor determined to what ideas any one ſhall annex them, common uſe is not ſufficient to adjuſt them to philoſophical diſcourſes; there being ſcarce any name of any very complex idea (to ſay nothing of others) which in common uſe has not a great latitude, and which keeping within the bounds of propriety, may not be made the ſign of far different ideas. Beſides, the rule and meaſure of propriety itſelf being no where eſtabliſhed, it is often matter of diſpute whether this or that way of uſing a word be propriety of ſpeech or no. From all which it is evident, that the names of ſuch kind of very complex ideas are naturally liable to this imperfection, to be of doubtful and uncertain ſignification; and even in men that have a mind to underſtand one another, do not always ſtand for the ſame idea in ſpeaker and hearer. Though the names glory and gratitude be the ſame in every man's mouth through a whole country, yet the complex collective idea, which every one thinks on, or intends by that name, is apparently very different in men uſing the ſame language.

The way of learning theſe names contributes alſo to their doubtfulneſs.

§. 9. The way alſo wherein the names of mixed modes are ordinarily learned, does not a little contribute to the doubtfulneſs of their ſignification. For if we will obſerve how children learn languages, we ſhall find that to make them underſtand what the names of ſimple ideas, or ſubſtances, ſtand for, people ordinarily ſhow them the thing, whereof they would

have them have the idea; and then repeat to them the name that ſtands for it, as white, ſweet, milk, ſugar, cat, dog. But as for mixed modes, eſpecially the moſt material of them, moral words, the ſounds are uſually learned firſt; and then to know what complex ideas they ſtand for, they are either beholden to the explication of others, or (which happens for the moſt part) are left to their own obſervation and induſtry; which being little laid out in the ſearch of the true and preciſe meaning of names, theſe moral words are in moſt men's mouths little more than bare ſounds; or when they have any, it is for the moſt part but a very looſe and undetermined, and conſequently obſcure and confuſed ſignification. And even thoſe themſelves, who have with more attention ſettled their notions, do yet hardly avoid the inconvenience, to have them ſtand for complex ideas, different from thoſe which other, even intelligent and ſtudious men, make them the ſigns of. Where ſhall one find any, either controverſial debate, or familiar diſcourſe, concerning honour, faith, grace, religion, church, &c. wherein it is not eaſy to obſerve the different notions men have of them? which is nothing but this, that they are not agreed in the ſignification of thoſe words, nor have in their minds the ſame complex ideas which they make them ſtand for: and ſo all the conteſts that follow thereupon, are only about the meaning of a ſound. And hence we ſee, that in the interpretation of laws, whether divine or human, there is no end; comments beget comments, and explications make new matter for explications; and of limiting, diſtinguiſhing, varying the ſignification of theſe moral words, there is no end. Theſe ideas of men's making are, by men ſtill having the ſame power, multiplied in infinitum. Many a man who was pretty well ſatisfied of the meaning of a text of ſcripture, or clauſe in the code at firſt reading, has by conſulting commentators quite loſt the ſenſe of it, and by theſe elucidations given riſe or increaſe to his doubts, and drawn obſcurity upon the place. I ſay not this, that I think commentaries needleſs; but to ſhow how uncertain the names of mixed modes naturally are, even in the mouths of thoſe who had both the intention

and

and the faculty of ſpeaking as clearly as language was capable to expreſs their thoughts.

Hence unavoidable obſcurity in ancient authors.

§. 10. What obſcurity this has unavoidably brought upon the writings of men, who have lived in remote ages and different countries, it will be needleſs to take notice; ſince the numerous volumes of learned men, employing their thoughts that way, are proofs more than enough to ſhow what attention, ſtudy, ſagacity, and reaſoning are required, to find out the true meaning of ancient authors. But there being no writings we have any great concernment to be very ſolicitous about the meaning of, but thoſe that contain either truths we are required to believe, or laws we are to obey, and draw inconveniencies on us when we miſtake or tranſgreſs, we may be leſs anxious about the ſenſe of other authors; who writing but their own opinions, we are under no greater neceſſity to know them, than they to know ours. Our good or evil depending not on their decrees, we may ſafely be ignorant of their notions: and therefore, in the reading of them, if they do not uſe their words with a due clearneſs and perſpicuity, we may lay them aſide, and, without any injury done them, reſolve thus with ourſelves,

"Si non vis intelligi, debes negligi."

Names of ſubſtances of doubtful ſignification.

§. 11. If the ſignification of the names of mixed modes are uncertain, becauſe there be no real ſtandards exiſting in nature, to which thoſe ideas are referred, and by which they may be adjuſted; the names of ſubſtances are of a doubtful ſignification, for a contrary reaſon, viz. becauſe the ideas they ſtand for are ſuppoſed conformable to the reality of things, and are referred to ſtandards made by nature. In our ideas of ſubſtances we have not the liberty, as in mixed modes, to frame what combinations we think fit, to be the characteriſtical notes to rank and denominate things by. In theſe we muſt follow nature, ſuit our complex ideas to real exiſtences, and regulate the ſignification of their names by the things themſelves, if we will have our names to be ſigns of them, and ſtand for them. Here, it is true, we have patterns to follow;

but

but patterns that will make the ſignification of their names very uncertain: for names muſt be of a very unſteady and various meaning, if the ideas they ſtand for be referred to ſtandards without us, that either cannot be known at all, or can be known but imperfectly and uncertainly.

Names of ſubſtances referred, 1. To real eſſences that cannot be known.

§. 12. The names of ſubſtances have, as has been ſhown, a double reference in their ordinary uſe.

Firſt, ſometimes they are made to ſtand for, and ſo their ſignification is ſuppoſed to agree to, the real conſtitution of things, from which all their properties flow, and in which they all centre. But this real conſtitution, or (as it is apt to be called) eſſence, being utterly unknown to us, any ſound that is put to ſtand for it, muſt be very uncertain in its application; and it will be impoſſible to know what things are, or ought to be called an horſe, or anatomy, when thoſe words are put for real eſſences, that we have no ideas of at all. And therefore, in this ſuppoſition, the names of ſubſtances being referred to ſtandards that cannot be known, their ſignifications can never be adjuſted and eſtabliſhed by thoſe ſtandards.

2. To co-exiſting qualities, which are known but imperfectly.

§. 13. Secondly, the ſimple ideas that are found to co-exiſt in ſubſtances being that which their names immediately ſignify, theſe, as united in the ſeveral ſorts of things, are the proper ſtandards to which their names are referred, and by which their ſignifications may be beſt rectified. But neither will theſe archetypes ſo well ſerve to this purpoſe, as to leave theſe names without very various and uncertain ſignifications. Becauſe theſe ſimple ideas that co-exiſt, and are united in the ſame ſubject, being very numerous, and having all an equal right to go into the complex ſpecifick idea, which the ſpecifick name is to ſtand for; men, though they propoſe to themſelves the very ſame ſubject to conſider, yet frame very different ideas about it; and ſo the name they uſe for it unavoidably comes to have, in ſeveral men, very different ſignifications. The ſimple qualities which make up the complex ideas being moſt

of them powers, in relation to changes, which they are apt to make in, or receive from other bodies, are almoſt infinite. He that ſhall but obſerve what a great variety of alterations any one of the baſer metals is apt to receive from the different application only of fire; and how much a greater number of changes any of them will receive in the hands of a chymiſt, by the application of other bodies; will not think it ſtrange that I count the properties of any ſort of bodies not eaſy to be collected, and completely known by the ways of inquiry, which our faculties are capable of. They being therefore at leaſt ſo many, that no man can know the preciſe and definite number, they are differently diſcovered by different men, according to their various ſkill, attention, and ways of handling; who therefore cannot chooſe but have different ideas of the ſame ſubſtance, and therefore make the ſignification of its common name very various and uncertain. For the complex ideas of ſubſtances being made up of ſuch ſimple ones as are ſuppoſed to co-exiſt in nature, every one has a right to put into his complex idea thoſe qualities he has found to be united together. For though in the ſubſtance of gold one ſatisfies himſelf with colour and weight, yet another thinks ſolubility in aq. regia as neceſſary to be joined with that colour in his idea of gold, as any one does its fuſibility; ſolubility in aq. regia being a quality as conſtantly joined with its colour and weight, as fuſibility, or any other; others put into its ductility or fixedneſs, &c. as they have been taught by tradition or experience. Who of all theſe has eſtabliſhed the right ſignification of the word gold? or who ſhall be the judge to determine? Each has its ſtandard in nature, which he appeals to, and with reaſon thinks he has the ſame right to put into his complex idea, ſignified by the word gold, thoſe qualities which upon trial he has found united; as another, who has not ſo well examined, has to leave them out; or a third, who has made other trials, has to put in others. For the union in nature of theſe qualities being the true ground of their union in one complex idea, who can ſay, one of them has more reaſon to *be put in, or left out*, than another? From hence it will always

always unavoidably follow, that the complex ideas of ſubſtances, in men uſing the ſame name for them, will be very various; and ſo the ſignifications of thoſe names very uncertain.

3. To co-exiſting qualities which are known but imperfectly.

§. 14. Beſides, there is ſcarce any particular thing exiſting, which, in ſome of its ſimple ideas, does not communicate with a greater, and in others a leſs number of particular beings: who ſhall determine in this caſe which are thoſe that are to make up the preciſe collection that is to be ſignified by the ſpecifick name; or can with any juſt authority preſcribe, which obvious or common qualities are to be left out; or which more ſecret, or more particular, are to be put into the ſignification of the name of any ſubſtance? All which together ſeldom or never fail to produce that various and doubtful ſignification in the names of ſubſtances, which cauſes ſuch uncertainty, diſputes, or miſtakes, when we come to a philoſophical uſe of them.

With this imperfection they may ſerve for civil, but not well for philoſophical uſe.

§. 15. It is true, as to civil and common converſation, the general names of ſubſtances, regulated in their ordinary ſignification by ſome obvious qualities, (as by the ſhape and figure in things of known ſeminal propagation, and in other ſubſtances, for the moſt part by colour, joined with ſome other ſenſible qualities) do well enough to deſign the things men would be underſtood to ſpeak of: and ſo they uſually conceive well enough the ſubſtances meant by the word gold, or apple, to diſtinguiſh the one from the other. But in philoſophical inquiries and debates, where general truths are to be eſtabliſhed, and conſequences drawn from poſitions laid down; there the preciſe ſignification of the names of ſubſtances will be found, not only not to be well eſtabliſhed, but alſo very hard to be ſo. For example, he that ſhall make malleableneſs, or a certain degree of fixedneſs, a part of his complex idea of gold, may make propoſitions concerning gold, and draw conſequences from them, that will truly and cleary follow from gold, taken in ſuch a ſignification: but yet ſuch as another man can never be

force

forced to admit, nor be convinced of their truth, who makes not malleableneſs, or the ſame degree of fixedneſs, part of that complex idea, that the name gold, in his uſe of it, ſtands for.

Inſtance, liquor.

§. 16. This is a natural, and almoſt unavoidable imperfection in almoſt all the names of ſubſtances, in all languages whatſoever which men will eaſily find, when once paſſing from confuſed or looſe notions, they come to more ſtrict and cloſe inquiries. For then they will be convinced how doubtful and obſcure thoſe words are in their ſignification, which in ordinary uſe appeared very clear and determined. I was once in a meeting of very learned and ingenious phyſicians, where by chance there aroſe a queſtion, whether any liquor paſſed through the filaments of the nerves. The debate having been managed a good while, by variety of arguments on both ſides, I (who had been uſed to ſuſpect, that the greateſt part of diſputes where more about the ſignification of words than a real difference in the conception of things) deſired, that before they went any farther on in this diſpute, they would firſt examine, and eſtabliſh amongſt them, what the word liquor ſignified. They at firſt were a little ſurpriſed at the propoſal; and had they been perſons leſs ingenious, they might perhaps have taken it for a very frivolous or extravagant one: ſince there was no one there that thought not himſelf to underſtand very perfectly what the word liquor ſtood for; which I think too none of the moſt perplexed names of ſubſtances. However, they were pleaſed to comply with my motion, and upon examination found, that the ſignification of that word was not ſo ſettled and certain as they had all imagined; but that each of them made it a ſign of a different complex idea. This made them perceive that the main of their diſpute was about the ſignification of that term; and that they differed very little in their opinions, concerning ſome fluid and ſubtile matter, paſſing through the conduits of the nerves; though it was not ſo eaſy to agree whether it was to be called liquor or no, a thing which, when conſidered, they *thought it not* worth the contending about.

§. 17.

§. 17. How much this is the caſe, in the greateſt part of diſputes that men are engaged ſo hotly in, I ſhall perhaps have an occaſion in another place to take notice. Let us only here conſider a little more exactly the fore-mentioned inſtance of the word gold, and we ſhall ſee how hard it is preciſely to determine its ſignification. I think all agree to make it ſtand for a body of a certain yellow ſhining colour; which being the idea to which children have annexed that name, the ſhining yellow part of a peacock's tail is properly to them gold. Others finding fuſibility joined with that yellow colour in certain parcels of matter, make of that combination a complex idea, to which they give the name gold to denote a ſort of ſubſtances; and ſo exclude from being gold all ſuch yellow ſhining bodies, as by fire will be reduced to aſhes; and admit to be of that ſpecies, or to be comprehended under that name gold, only ſuch ſubſtances as having that ſhining yellow colour will by fire be reduced to fuſion, and not to aſhes. Another by the ſame reaſon adds the weight, which being a quality, as ſtraitly joined with that colour, as its fuſibility, he thinks has the ſame reaſon to be joined in its idea, and to be ſignified by its name: and therefore the other made up of body, of ſuch a colour and fuſibility, to be imperfect: and ſo on of all the reſt: wherein no one can ſhow a reaſon why ſome of the inſeparable qualities, that are always united in nature, ſhould be put into the nominal eſſence, and others left out; or why the word gold, ſignifying that ſort of body the ring on his finger is made of, ſhould determine that ſort rather by its colour, weight, and fuſibility, than by its colour, weight, and ſolubility in aq. regia: ſince the diſſolving it by that liquor is as inſeparable from it as the fuſion by fire; and they are both of them nothing but the relation which that ſubſtance has to two other bodies, which have a power to operate differently upon it. For by what right is it that fuſibility comes to be a part of the eſſence ſignified by the word gold, and ſolubility but a property of it? or why is its colour part of the eſſence, and its malleableneſs but a property? That which I mean is this,

Inſtance, gold.

this, That theſe being all but properties depending on its real conſtitution, and nothing but powers, either active or paſſive, in reference to other bodies: no one has authority to determine the ſignification of the word gold (as referred to ſuch a body exiſting in nature) more to one collection of ideas to be found in that body than to another: whereby the ſignification of that name muſt unavoidably be very uncertain; ſince, as has been ſaid, ſeveral people obſerve ſeveral properties in the ſame ſubſtance; and, I think, I may ſay no-body at all. And therefore we have but very imperfect deſcriptions of things, and words have very uncertain ſignifications.

The names of ſimple ideas the leaſt doubtful.

§. 18. From what has been ſaid, it is eaſy to obſerve what has been before remarked, viz. That the names of ſimple ideas are, of all others, the leaſt liable to miſtakes, and that for theſe reaſons. Firſt, becauſe the ideas they ſtand for, being each but one ſingle perception, are much eaſier got, and more clearly retained, than the more complex ones, and therefore are not liable to the uncertainty which uſually attends thoſe compounded ones of ſubſtances and mixed modes, in which the preciſe number of ſimple ideas, that make them up, are not eaſily agreed, and ſo readily kept in the mind. And ſecondly, becauſe they are never referred to any other eſſence, but barely that perception they immediately ſignify: which reference is that which renders the ſignification of the names of ſubſtances naturally ſo perplexed, and gives occaſion to ſo many diſputes. Men that do not perverſely uſe their words, or on purpoſe ſet themſelves to cavil, ſeldom miſtake in any language, which they are acquainted with, the uſe and ſignification of the names of ſimple ideas: white and ſweet, yellow and bitter, carry a very obvious meaning with them, which every one preciſely comprehends, or eaſily perceives he is ignorant of, and ſeeks to be informed. But what preciſe collection of ſimple ideas modeſty or frugality ſtand for in another's uſe, is not ſo certainly known. And however we are apt to think we well *enough* know what is meant by gold or iron; yet the *preciſe complex* idea, others make them the ſigns of,

is not ſo certain: and I believe it is very ſeldom that, in ſpeaker and hearer, they ſtand for exactly the ſame collection. Which muſt needs produce miſtakes and diſputes, when they are made uſe of in diſcourſes, wherein men have to do with univerſal propoſitions, and would ſettle in their minds univerſal truths, and conſider the conſequences that follow from them.

And next to them, ſimple modes.

§. 19. By the ſame rule, the names of ſimple modes are, next to thoſe of ſimple ideas, leaſt liable to doubt and uncertainty, eſpecially thoſe of figure and number, of which men have ſo clear and diſtinct ideas. Who ever, that had a mind to underſtand them, miſtook the ordinary meaning of ſeven, or a triangle? And in general the leaſt compounded ideas in every kind have the leaſt dubious names.

The moſt doubtful are the names of very compounded mixed modes and ſubſtances.

§. 20. Mixed modes therefore, that are made up but of a few and obvious ſimple ideas, have uſually names of no very uncertain ſignification. But the names of mixed modes, which comprehend a great number of ſimple ideas, are commonly of a very doubtful and undetermined meaning, as has been ſhown. The names of ſubſtances, being annexed to ideas that are neither the real eſſences nor exact repreſentations of the patterns they are referred to, are liable yet to greater imperfection and uncertainty, eſpecially when we come to a philoſophical uſe of them.

Why this imperfection charged upon words.

§. 21. The great diſorder that happens in our names of ſubſtances, proceeding for the moſt part from our want of knowledge, and inability to penetrate into their real conſtitutions, it may probably be wondered, why I charge this as an imperfection rather upon our words than underſtandings. This exception has ſo much appearance of juſtice, that I think myſelf obliged to give a reaſon why I have followed this method. I muſt confeſs then, that when I firſt began this diſcourſe of the underſtanding, and a good while after, I had not the leaſt thought that any conſideration of words was at all neceſſary to it. But when having paſſed over the original and compoſi-

tion of our ideas, I began to examine the extent and certainty of our knowledge, I found it had ſo near a connexion with words, that, unleſs their force and manner of ſignification were firſt well obſerved, there could be very little ſaid clearly and pertinently concerning knowledge; which being converſant about truth, had conſtantly to do with propoſitions. And though it terminated in things, yet it was for the moſt part ſo much by the intervention of words, that they ſeemed ſcarce ſeparable from our general knowledge. At leaſt they interpoſe themſelves ſo much between our underſtandings and the truth which it would contemplate and apprehend, that like the medium through which viſible objects paſs, their obſcurity and diſorder do not ſeldom caſt a miſt before our eyes, and impoſe upon our underſtandings. If we conſider, in the fallacies men put upon themſelves as well as others, and the miſtakes in men's diſputes and notions, how great a part is owing to words, and their uncertain or miſtaken ſignifications, we ſhall have reaſon to think this no ſmall obſtacle in the way to knowledge; which, I conclude, we are the more carefully to be warned of, becauſe it has been ſo far from being taken notice of as an inconvenience, that the arts of improving it have been made the buſineſs of men's ſtudy; and obtained the reputation of learning and ſubtilty, as we ſhall ſee in the following chapter. But I am apt to imagine, that were the imperfections of language, as the inſtrument of knowledge, more thoroughly weighed, a great many of the controverſies that make ſuch a noiſe in the world, would of themſelves ceaſe; and the way to knowledge, and perhaps peace too, lie a great deal opener than it does.

This ſhould teach us moderation, in impoſing our own ſenſe of old authors.

§. 22. Sure I am, that the ſignification of words in all languages depending very much on the thoughts, notions, and ideas of him that uſes them, muſt unavoidably be of great uncertainty to men of the ſame language and country. This is ſo evident in the Greek authors, that he that ſhall peruſe their writings will find in almoſt every one of them a diſtinct language, *though the ſame words.* But when to this natural difficulty

ficulty in every country there ſhall be added different countries and remote ages, wherein the ſpeakers and writers had very different notions, tempers, cuſtoms, ornaments and figures of ſpeech, &c. every one of which influenced the ſignification of their words then, though to us now they are loſt and unknown; it would become us to be charitable one to another in our interpretations or miſunderſtanding of thoſe antient writings: which though of great concernment to be underſtood, are liable to the unavoidable difficulties of ſpeech, which (if we except the names of ſimple ideas, and ſome very obvious things) is not capable, without a conſtant defining the terms, of conveying the ſenſe and intention of the ſpeaker, without any manner of doubt and uncertainty, to the hearer. And in diſcourſes of religion, law, and morality, as they are matters of the higheſt concernment, ſo there will be the greateſt difficulty.

§. 23. The volumes of interpreters and commentators on the old and new Teſtament are but too manifeſt proofs of this. Though every thing ſaid in the text be infallibly true, yet the reader may be, nay cannot chooſe but be very fallible in the underſtanding of it. Nor is it to be wondered, that the will of God, when cloathed in words, ſhould be liable to that doubt and uncertainty, which unavoidably attends that ſort of conveyance; when even his Son, whilſt cloathed in fleſh, was ſubject to all the frailties and inconveniencies of human nature, ſin excepted. And we ought to magnify his goodneſs that he hath ſpread before all the world ſuch legible characters of his works and providence, and given all mankind ſo ſufficient a light of reaſon, that they to whom this written word never came, could not (whenever they ſet themſelves to ſearch) either doubt of the being of a God, or of the obedience due to him. Since then the precepts of natural religion are plain, and very intelligible to all mankind, and ſeldom come to be controverted; and other revealed truths, which are conveyed to us by books and languages, are liable to the common and natural obſcurities and difficulties incident to words; methinks it would become us to be more

careful and diligent in obſerving the former, and leſs magiſterial, poſitive, and imperious, in impoſing our own ſenſe and interpretations of the latter.

CHAP. X.

Of the Abuſe of Words.

Abuſe of words.

§. 1. BESIDES the imperfection that is naturally in language, and the obſcurity and confuſion that is ſo hard to be avoided in the uſe of words, there are ſeveral wilful faults and neglects which men are guilty of in this way of communication, whereby they render theſe ſigns leſs clear and diſtinct in their ſignification, than naturally they need to be.

Firſt, Words without any, or without clear ideas.

§. 2. Firſt, in this kind, the firſt and moſt palpable abuſe is, the uſing of words without clear and diſtinct ideas; or, which is worſe, ſigns without any thing ſignified. Of theſe there are two ſorts:

I. One may obſerve, in all languages, certain words, that if they be examined, will be found, in their firſt original and their appropriated uſe, not to ſtand for any clear and diſtinct ideas. Theſe, for the moſt part, the ſeveral ſects of philoſophy and religion have introduced. For their authors, or promoters, either affecting ſomething ſingular and out of the way of common apprehenſions, or to ſupport ſome ſtrange opinions, or cover ſome weakneſs of their hypotheſis, ſeldom fail to coin new words, and ſuch as, when they come to be examined, may juſtly be called inſignificant terms. For having either had no determinate collection of ideas annexed to them, when they were firſt invented; or at leaſt ſuch as, if well examined, will be found inconſiſtent; it is no wonder if afterwards, in the vulgar uſe of the ſame party, they remain empty ſounds, with little or no ſignification, amongſt thoſe who think it enough to have

them often in their mouths, as the diſtinguiſhing characters of their church, or ſchool, without much troubling their heads to examine what are the preciſe ideas they ſtand for. I ſhall not need here to heap up inſtances; every man's reading and converſation will ſufficiently furniſh him: or if he wants to be better ſtored, the great mint-maſters of this kind of terms, I mean the ſchool-men and metaphyſicians (under which, I think, the diſputing natural and moral philoſophers of theſe latter ages may be comprehended) have wherewithal abundantly to content him.

§. 3. II. Others there be, who extend this abuſe yet farther, who take ſo little care to lay by words, which in their primary notation have ſcarce any clear and diſtinct ideas which they are annexed to, that by an unpardonable negligence they familiarly uſe words, which the propriety of language has affixed to very important ideas, without any diſtinct meaning at all. Wiſdom, glory, grace, &c. are words frequent enough in every man's mouth; but if a great many of thoſe who uſe them, ſhould be aſked what they mean by them, they would be at a ſtand, and not know what to anſwer: a plain proof, that though they have learned thoſe ſounds, and have them ready at their tongues end, yet there are no determined ideas laid up in their minds, which are to be expreſſed to others by them.

Occaſioned by learning names before the ideas they belong to.

§. 4. Men having been accuſtomed from their cradles to learn words, which are eaſily got and retained, before they knew, or had framed the complex ideas, to which they were annexed, or which were to be found in the things they were thought to ſtand for; they uſually continue to do ſo all their lives; and without taking the pains neceſſary to ſettle in their minds determined ideas, they uſe their words for ſuch unſteady and confuſed notions as they have, contenting themſelves with the ſame words other people uſe: as if their very ſound neceſſarily carried with it conſtantly the ſame meaning. This, though men make a ſhift with, in the ordinary occurrences of life, where they find it neceſſary to be underſtood, and therefore they make ſigns till they are

ſo; yet this inſignificancy in their words, when they come to reaſon concerning either their tenets or intereſt, manifeſtly fills their diſcourſe with abundance of empty unintelligible noiſe and jargon, eſpecially in moral matters, where the words for the moſt part ſtanding for arbitrary and numerous collections of ideas, not regularly and permanently united in nature, their bare ſounds are often only thought on, or at leaſt very obſcure and uncertain notions annexed to them. Men take the words they find in uſe amongſt their neighbours; and that they may not ſeem ignorant what they ſtand for, uſe them confidently, without much troubling their heads about a certain fixed meaning: whereby, beſides the eaſe of it, they obtain this advantage, that as in ſuch diſcourſes they ſeldom are in the right, ſo they are as ſeldom to be convinced that they are in the wrong; it being all one to go about to draw thoſe men out of their miſtakes, who have no ſettled notions, as to diſpoſſeſs a vagrant of his habitation, who has no ſettled abode. This I gueſs to be ſo; and every one may obſerve in himſelf and others, whether it be or no.

2. Unſteady application of them.

§. 5. Secondly, another great abuſe of words is inconſtancy in the uſe of them. It is hard to find a diſcourſe written of any ſubject, eſpecially of controverſy, wherein one ſhall not obſerve, if he read with attention, the ſame words (and thoſe commonly the moſt material in the diſcourſe, and upon which the argument turns) uſed ſometimes for one collection of ſimple ideas, and ſometimes for another: which is a perfect abuſe of language. Words being intended for ſigns of my ideas, to make them known to others, not by any natural ſignification, but by a voluntary impoſition, it is plain cheat and abuſe, when I make them ſtand ſometimes for one thing, and ſometimes for another; the wilful doing whereof, can be imputed to nothing but great folly, or greater diſhoneſty. And a man, in his accompts with another, may, with as much fairneſs, make the characters of numbers ſtand ſometimes for one, and ſometimes for another collection of units (v. g. this character 3 ſtands ſometimes for three, ſometimes for four, and ſometimes for

eight)

eight) as in his diſcourſe, or reaſoning, make the ſame words ſtand for different collections of ſimple ideas. If men ſhould do ſo in their reckonings, I wonder who would have to do with them? One who would ſpeak thus, in the affairs and buſineſs of the world, and call 8 ſometimes ſeven, and ſometimes nine, as beſt ſerved his advantage, would preſently have clapped upon him one of the two names men are commonly diſguſted with. And yet in arguings and learned conteſts, the ſame ſort of proceedings paſſes commonly for wit and learning: but to me it appears a greater diſhoneſty, than the miſplacing of counters in the caſting up a debt; and the cheat the greater, by how much truth is of greater concernment and value than money.

3. Affected obſcurity by wrong application.

§. 6. Thirdly, another abuſe of language is an affected obſcurity, by either applying old words to new and unuſual ſignifications, or introducing new and ambiguous terms, without defining either; or elſe putting them ſo together, as may confound their ordinary meaning. Though the Peripatetic philoſophy has been moſt eminent in this way, yet other ſects have not been wholly clear of it. There are ſcarce any of them that are not cumbered with ſome difficulties (ſuch is the imperfection of human knowledge) which they have been fain to cover with obſcurity of terms, and to confound the ſignification of words, which, like a miſt before people's eyes, might hinder their weak parts from being diſcovered. That body and extenſion, in common uſe, ſtand for two diſtinct ideas, is plain to any one that will but reflect a little. For were their ſignification preciſely the ſame, it would be proper, and as intelligible to ſay, the body of an extenſion, as the extenſion of a body; and yet there are thoſe who find it neceſſary to confound their ſignification. To this abuſe, and the miſchiefs of confounding the ſignification of words, logick and the liberal ſciences, as they have been handled in the ſchools, have given reputation; and the admired art of diſputing hath added much to the natural imperfection of languages, whilſt it has been made uſe of and fitted to perplex the ſignification of words, more than to diſcover

the

the knowledge and truth of things: and he that will look into that ſort of learned writings, will find the words there much more obſcure, uncertain, and undetermined in their meaning, than they are in ordinary converſation.

Logick and diſpute have much contributed to this.

§. 7. This is unavoidably to be ſo, where men's parts and learning are eſtimated by their ſkill in diſputing. And if reputation and reward ſhall attend theſe conqueſts, which depend moſtly on the fineneſs and niceties of words, it is no wonder if the wit of man, ſo employed, ſhould perplex, involve, and ſubtilize the ſignification of ſounds, ſo as never to want ſomething to ſay, in oppoſing or defending any queſtion; the victory being adjudged not to him who had truth on his ſide, but the laſt word in the diſpute.

Calling it ſubtilty.

§. 8. This, though a very uſeleſs ſkill, and that which I think the direct oppoſite to the ways of knowledge, hath yet paſſed hitherto under the laudable and eſteemed names of ſubtilty and acuteneſs: and has had the applauſe of the ſchools, and encouragement of one part of the learned men of the world. And no wonder, ſince the philoſophers of old (the diſputing and wrangling philoſophers I mean, ſuch as Lucian wittily and with reaſon taxes) and the ſchoolmen ſince, aiming at glory and eſteem for their great and univerſal knowledge, eaſier a great deal to be pretended to, than really acquired, found this a good expedient to cover their ignorance with a curious and inexplicable web of perplexed words, and procure to themſelves the admiration of others by unintelligible terms, the apter to produce wonder, becauſe they could not be underſtood: whilſt it appears in all hiſtory, that theſe profound doctors were no wiſer, nor more uſeful than their neighbours; and brought but ſmall advantage to human life, or the ſocieties wherein they lived: unleſs the coining of new words, where they produced no new things to apply them to, or the perplexing or obſcuring the ſignification of old ones, and ſo bringing all things into queſtion and diſpute, were a thing profitable

fitable to the life of man, or worthy commendation and reward.

This learning very little benefits ſociety.

§. 9. For notwithſtanding theſe learned diſputants, theſe all-knowing doctors, it was to the unſcholaſtic ſtateſman, that the governments of the world owed their peace, defence, and liberties; and from the illiterate and contemned mechanick (a name of diſgrace) that they received the improvements of uſeful arts. Nevertheleſs, this artificial ignorance, and learned gibberiſh, prevailed mightily in theſe laſt ages, by the intereſt and artifice of thoſe who found no eaſier way to that pitch of authority and dominion they have attained, than by amuſing the men of buſineſs and ignorant with hard words, or employing the ingenious and idle in intricate diſputes about unintelligible terms, and holding them perpetually entangled in that endleſs labyrinth. Beſides, there is no ſuch way to gain admittance, or give defence to ſtrange and abſurd doctrines, as to guard them round about with legions of obſcure, doubtful, and undefined words: which yet make theſe retreats more like the dens of robbers, or holes of foxes, than the fortreſſes of fair warriors; which if it be hard to get them out of, it is not for the ſtrength that is in them, but the briars and thorns, and the obſcurity of the thickets they are beſet with. For untruth being unacceptable to the mind of man, there is no other defence left for abſurdity, but obſcurity.

But deſtroys the inſtruments of knowledge and communication.

§. 10. Thus learned ignorance, and this art of keeping, even inquiſitive men, from true knowledge, hath been propagated in the world, and hath much perplexed whilſt it pretended to inform the underſtanding. For we ſee that other well-meaning and wiſe men, whoſe education and parts had not acquired that acuteneſs, could intelligibly expreſs themſelves to one another; and in its plain uſe make a benefit of language. But though unlearned men well enough underſtood the words white and black, &c. and had conſtant notions of the ideas ſignified by thoſe words; yet there were philoſophers found, who had learning and ſubtilty enough

enough to prove, that ſnow was black; i. e. to prove, that white was black. Whereby they had the advantage to deſtroy the inſtruments and means of diſcourſe, converſation, inſtruction, and ſociety; whilſt with great art and ſubtilty they did no more but perplex and confound the ſignification of words, and thereby render language leſs uſeful, than the real defects of it had made it; a gift, which the illiterate had not attained to.

As uſeful as to confound the ſound of the letters.

§. 11. Theſe learned men did equally inſtruct men's underſtandings, and profit their lives, as he who ſhould alter the ſignification of known characters, and, by a ſubtle device of learning, far ſurpaſſing the capacity of the illiterate, dull, and vulgar, ſhould in his writing, ſhow that he could put A for B, and D for E, &c. to the no ſmall admiration and benefit of his reader: it being as ſenſeleſs to put black, which is a word agreed on to ſtand for one ſenſible idea, to put it, I ſay, for another, or the contrary idea, i. e. to call ſnow black, as to put this mark A, which is a character agreed on to ſtand for one modification of ſound, made by a certain motion of the organs of ſpeech, for B; which is agreed on to ſtand for another modification of ſound, made by another certain mode of the organs of ſpeech.

This art has perplexed religion and juſtice.

§. 12. Nor hath this miſchief ſtopped in logical niceties, or curious empty ſpeculations; it hath invaded the great concernments of human life and ſociety, obſcured and perplexed the material truths of law and divinity; brought confuſion, diſorder, and uncertainty into the affairs of mankind; and if not deſtroyed, yet in a great meaſure rendered uſeleſs, theſe two great rules, religion and juſtice. What have the greateſt part of the comments and diſputes upon the laws of God and man ſerved for, but to make the meaning more doubtful, and perplex the ſenſe? What have been the effect of thoſe multiplied curious diſtinctions and acute niceties, but obſcurity and uncertainty, leaving the words more unintelligible, and the reader more at a loſs? How elſe comes it to paſs that princes, ſpeaking or writing to their ſervants, in their ordinary commands, are eaſily under-

underſtood; ſpeaking to their people, in their laws, are not ſo? And, as I remarked before, doth it not often happen, that a man of an ordinary capacity very well underſtands a text or a law that he reads, till he conſults an expoſitor, or goes to counſel; who, by that time he hath done explaining them, makes the words ſignify either nothing at all, or what he pleaſes.

And ought not to paſs for learning.

§. 13. Whether any by-intereſts of theſe profeſſions have occaſioned this, I will not here examine; but I leave it to be conſidered, whether it would not be well for mankind, whoſe concernment it is to know things as they are, and to do what they ought, and not to ſpend their lives in talking about them, or toſſing words to and fro; whether it would not be well, I ſay, that the uſe of words were made plain and direct, and that language, which was given us for the improvement of knowledge and bond of ſociety, ſhould not be employed to darken truth, and unſettle people's rights; to raiſe miſts, and render unintelligible both morality and religion? Or that at leaſt, if this will happen, it ſhould not be thought learning or knowledge to do ſo?

4. Taking them for things.

§. 14. Fourthly, another great abuſe of words is, the taking them for things. This though it in ſome degree concerns all names in general, yet more particularly affects thoſe of ſubſtances. To this abuſe thoſe men are moſt ſubject, who moſt confine their thoughts to any one ſyſtem, and give themſelves up into a firm belief of the perfection of any received hypotheſis; whereby they come to be perſuaded, that the terms of that ſect are ſo ſuited to the nature of things, that they perfectly correſpond with their real exiſtence. Who is there, that has been bred up in the Peripatetic philoſophy, who does not think the ten names, under which are ranked the ten predicaments, to be exactly conformable to the nature of things? Who is there of that ſchool, that is not perſuaded, that ſubſtantial forms, vegetative ſouls, abhorrence of a vacuum, intentional ſpecies, &c. are ſomething real? Theſe words men have learned from their very entrance upon knowledge, and have found their maſters and ſyſtems

lay great ſtreſs upon them; and therefore they cannot quit the opinion, that they are conformable to nature, and are the repreſentations of ſomething that really exiſts. The Platoniſts have their ſoul of the world, and the Epicureans their endeavour towards motion in their atoms, when at reſt. There is ſcarce any ſect in philoſophy has not a diſtinct ſet of terms, that others underſtand not; but yet this gibberiſh, which, in the weakneſs of human underſtanding, ſerves ſo well to palliate men's ignorance, and cover their errors, comes, by familiar uſe amongſt thoſe of the ſame tribe, to ſeem the moſt important part of language, and of all other the terms the moſt ſignificant. And ſhould aerial and ætherial vehicles come once, by the prevalency of that doctrine, to be generally received any where, no doubt thoſe terms would make impreſſions on men's minds, ſo as to eſtabliſh them in the perſuaſion of the reality of ſuch things, as much as Peripatetic forms and intentional ſpecies have heretofore done.

Inſtance, in matter.

§. 15. How much names taken for things are apt to miſlead the underſtanding, the attentive reading of philoſophical writers would abundantly diſcover; and that, perhaps, in words little ſuſpected of any ſuch miſuſe. I ſhall inſtance in one only, and that a very familiar one: how many intricate diſputes have there been about matter, as if there were ſome ſuch thing really in nature, diſtinct from body; as it is evident the word matter ſtands for an idea diſtinct from the idea of body? For if the ideas theſe two terms ſtood for were preciſely the ſame, they might indifferently, in all places, be put for one another. But we ſee, that though it be proper to ſay, there is one matter of all bodies, one cannot ſay there is one body of all matters: we familiarly ſay, one body is bigger than another; but it ſounds harſh (and I think is never uſed) to ſay, one matter is bigger than another. Whence comes this then? viz. from hence, that though matter and body be not really diſtinct, but wherever there is the one there is the other; yet matter and body ſtand for two different conceptions, whereof the one is incomplete, and but a part of the other. For body

ſtands

ſtands for a ſolid extended figured ſubſtance, whereof matter is but a partial and more confuſed conception, it ſeeming to me to be uſed for the ſubſtance and ſolidity of body, without taking in its extenſion and figure: and therefore it is that ſpeaking of matter, we ſpeak of it always as one, becauſe in truth it expreſsly contains nothing but the idea of a ſolid ſubſtance, which is every where the ſame, every where uniform. This being our idea of matter, we no more conceive or ſpeak of different matters in the world, than we do of different ſolidities; though we both conceive and ſpeak of different bodies, becauſe extenſion and figure are capable of variation. But ſince ſolidity cannot exiſt without extenſion and figure, the taking matter to be the name of ſomething really exiſting under that preciſion, has no doubt produced thoſe obſcure and unintelligible diſcourſes and diſputes, which have filled the heads and books of philoſophers concerning materia prima; which imperfection or abuſe, how far it may concern a great many other general terms, I leave to be conſidered. This, I think, I may at leaſt ſay, that we ſhould have a great many fewer diſputes in the world, if words were taken for what they are, the ſigns of our ideas only, and not for things themſelves. For when we argue about matter, or any the like term, we truly argue only about the idea we expreſs by that ſound, whether that preciſe idea agree to any thing really exiſting in nature or no. And if men would tell what ideas they make their words ſtand for, there could not be half that obſcurity or wrangling, in the ſearch or ſupport of truth, that there is.

This makes errors laſting.

§. 16. But whatever inconvenience follows from this miſtake of words, this I am ſure, that by conſtant and familiar uſe they charm men into notions far remote from the truth of things. It would be a hard matter to perſuade any one, that the words which his father or ſchoolmaſter, the parſon of the pariſh, or ſuch a reverend doctor uſed, ſignified nothing that really exiſted in nature; which, perhaps, is none of the leaſt cauſes, that men are ſo hardly drawn to quit their miſtakes, even in opinions purely

purely philoſophical, and where they have no other intereſt but truth. For the words they have a long time been uſed to, remaining firm in their minds, it is no wonder that the wrong notions annexed to them ſhould not be removed.

5. Setting them for what they cannot ſignify.

§. 17. Fifthly, another abuſe of words, is the ſetting them in the place of things which they do or can by no means ſignify. We may obſerve, that in the general names of ſubſtances, whereof the nominal eſſences are only known to us, when we put them into propoſitions, and affirm or deny any thing about them, we do moſt commonly tacitly ſuppoſe, or intend they ſhould ſtand for the real eſſence of a certain ſort of ſubſtances. For when a man ſays gold is malleable, he means and would inſinuate ſomething more than this, that what I call gold is malleable, (though truly it amounts to no more) but would have this underſtood, viz. that gold, i. e. what has the real eſſence of gold, is malleable; which amounts to thus much, that malleableneſs depends on, and is inſeparable from the real eſſence of gold. But a man, not knowing wherein that real eſſence conſiſts, the connexion in his mind of malleableneſs, is not truly with an eſſence he knows not, but only with the ſound gold he puts for it. Thus when we ſay, that "animal rationale" is, and "animal implume bipes latis unguibus" is not a good definition of a man; it is plain, we ſuppoſe the name man in this caſe to ſtand for the real eſſence of a ſpecies, and would ſignify, that a rational animal better deſcribed that real eſſence than a two-legged animal with broad nails, and without feathers. For elſe, why might not Plato as properly make the word ἄνθρωπος, or man, ſtand for his complex idea, made up of the idea of a body, diſtinguiſhed from others by a certain ſhape and other outward appearances, as Ariſtotle make the complex idea, to which he gave the name ἄνθρωπος, or man, of body and the faculty of reaſoning joined together; unleſs the name ἄνθρωπος, or man, were ſuppoſed to ſtand for ſomething elſe than what it ſignifies; and to be put in the place of ſome other thing than the idea a man profeſſes he would expreſs by it?...

§. 18.

§. 18. It is true, the names of ſubſtances would be much more uſeful, and propoſitions made in them much more certain, were the real eſſences of ſubſtances the ideas in our minds which thoſe words ſignified. And it is for want of thoſe real eſſences that our words convey ſo little knowledge or certainty in our diſcourſes about them: and therefore the mind, to remove that imperfection as much as it can, makes them, by a ſecret ſuppoſition, to ſtand for a thing, having that real eſſence, as if thereby it made ſome nearer approaches to it. For though the word man or gold ſignify nothing truly but a complex idea of properties united together in one ſort of ſubſtances: yet there is ſcarce any body in the uſe of theſe words, but often ſuppoſes each of thoſe names to ſtand for a thing having the real eſſence, on which theſe properties depend. Which is ſo far from diminiſhing the imperfection of our words, that by a plain abuſe it adds to it when we would make them ſtand for ſomething, which not being in our complex idea, the name we uſe can no ways be the ſign of.

v. g. Putting them for the real eſſences of ſubſtances.

§. 19. This ſhows us the reaſon why in mixed modes any of the ideas that make the compoſition of the complex one, being left out or changed, it is allowed to be another thing, i. e. to be of another ſpecies, it is plain in chance-medley, man-ſlaughter, murder, parricide, &c. The reaſon whereof is, becauſe the complex idea ſignified by that name is the real as well as nominal eſſence; and there is no ſecret reference of that name to any other eſſence but that. But in ſubſtances it is not ſo. For though in that called gold one puts into his complex idea what another leaves out, and vice verſa; yet men do not uſually think that therefore the ſpecies is changed: becauſe they ſecretly in their minds refer that name, and ſuppoſe it annexed to a real immutable eſſence of a thing exiſting, on which thoſe properties depend. He that adds to his complex idea of gold that of fixedneſs and ſolubility in aq. regia, which he put not in it before, is not thought to have changed the ſpecies; but only to have a more perfect

Hence we think every change of our idea in ſubſtances not to change the ſpecies.

idea, by adding another ſimple idea, which is always in fact joined with thoſe other, of which his former complex idea conſiſted. But this reference of the name to a thing, whereof we had not the idea, is ſo far from helping at all, that it only ſerves the more to involve us in difficulties. For by this tacit reference to the real eſſence of that ſpecies of bodies, the word gold (which by ſtanding for a more or leſs perfect collection of ſimple ideas, ſerves to deſign that ſort of body well enough in civil diſcourſes) comes to have no ſignification at all, being put for ſomewhat, whereof we have no idea at all, and ſo can ſignify nothing at all, when the body itſelf is away. For however it may be thought all one; yet, if well conſidered, it will be found a quite different thing to argue about gold in name, and about a parcel in the body itſelf, v. g. a piece of leaf-gold laid before us; though in diſcourſe we are fain to ſubſtitute the name for the thing.

The cauſe of the abuſe, a ſuppoſition of nature's working always regularly.

§. 20. That which I think very much diſpoſes men to ſubſtitute their names for the real eſſences of ſpecies, is the ſuppoſition before-mentioned, that nature works regularly in the production of things, and ſets the boundaries to each of thoſe ſpecies, by giving exactly the ſame real internal conſtitution to each individual, which we rank under one general name. Whereas any one who obſerves their different qualities, can hardly doubt, that many of the individuals, called by the ſame name, are, in their internal conſtitution, as different one from another as ſeveral of thoſe which are ranked under different ſpecifick names. This ſuppoſition, however, that the ſame preciſe and internal conſtitution goes always with the ſame ſpecifick name, makes men forward to take thoſe names for the repreſentatives of thoſe real eſſences, though indeed they ſignify nothing but the complex ideas they have in their minds when they uſe them. So that, if I may ſo ſay, ſignifying one thing, and being ſuppoſed for, or put in the place of another, they cannot but, in ſuch a kind of uſe, cauſe a great deal of uncertainty in men's diſcourſes; eſpecially in thoſe who have tho-

roughly imbibed the doctrine of ſubſtantial forms, whereby they firmly imagine the ſeveral ſpecies of things to be determined and diſtinguiſhed.

This abuſe contains two falſe ſuppoſitions.

§. 21. But however prepoſterous and abſurd it be to make our names ſtand for ideas we have not, or (which is all one) eſſences that we know not, it being in effect to make our words the ſigns of nothing; yet it is evident to any one, who ever ſo little reflects on the uſe men make of their words, that there is nothing more familiar. When a man aſks whether this or that thing he ſees, let it be a drill, or a monſtrous fœtus, be a man or no; it is evident, the queſtion is not, whether that particular thing agree to his complex idea, expreſſed by the name man: but whether it has in it the real eſſence of a ſpecies of things, which he ſuppoſes his name man to ſtand for. In which way of uſing the names of ſubſtances, there are theſe falſe ſuppoſitions contained.

Firſt, that there are certain preciſe eſſences according to which nature makes all particular things, and by which they are diſtinguiſhed into ſpecies. That every thing has a real conſtitution, whereby it is what it is, and on which its ſenſible qualities depend, is paſt doubt: but I think it has been proved, that this makes not the diſtinction of ſpecies, as we rank them; nor the boundaries of their names.

Secondly, this tacitly alſo inſinuates, as if we had ideas of theſe propoſed eſſences. For to what purpoſe elſe is it to inquire whether this or that thing have the real eſſence of the ſpecies man, if we did not ſuppoſe that there were ſuch a ſpecifick eſſence known? which yet is utterly falſe: and therefore ſuch application of names, as would make them ſtand for ideas which we have not, muſt needs cauſe great diſorder in diſcourſes and reaſonings about them, and be a great inconvenience in our communication by words.

6. A ſuppoſition that words have a certain and evident ſignification.

§. 22. Sixthly, there remains yet another more general, though perhaps leſs obſerved abuſe of words: and that is, that men having by a long and familiar uſe annexed to them *certain* ideas, they are apt to imagine

ſo near and neceſſary a connexion between the names and the ſignification they uſe them in, that they forwardly ſuppoſe one cannot but underſtand what their meaning is; and therefore one ought to acquieſce in the words delivered, as if it were paſt doubt, that, in the uſe of thoſe common received ſounds, the ſpeaker and hearer had neceſſarily the ſame preciſe ideas. Whence preſuming, that when they have in diſcourſe uſed any term, they have thereby, as it were, ſet before others the very thing they talked of; and ſo likewiſe taking the words of others, as naturally ſtanding for juſt what they themſelves have been accuſtomed to apply them to, they never trouble themſelves to explain their own, or underſtand clearly others meaning. From whence commonly proceed noiſe and wrangling, without improvement or information; whilſt men take words to be the conſtant regular marks of agreed notions, which in truth are no more but the voluntary and unſteady ſigns of their own ideas. And yet men think it ſtrange, if in diſcourſe, or (where it is often abſolutely neceſſary) in diſpute, one ſometimes aſks the meaning of their terms: though the arguings one may every day obſerve in converſation, make it evident, that there are few names of complex ideas which any two men uſe for the ſame juſt preciſe collection. It is hard to name a word which will not be a clear inſtance of this. Life is a term, none more familiar. Any one almoſt would take it for an affront to be aſked what he meant by it. And yet if it comes in queſtion, whether a plant, that lies ready formed in the ſeed, have life; whether the embryo in an egg before incubation, or a man in a ſwoon without ſenſe or motion, be alive or no; it is eaſy to perceive that a clear diſtinct ſettled idea does not always accompany the uſe of ſo known a word as that of life is. Some groſs and confuſed conceptions men indeed ordinarily have, to which they apply the common words of their language; and ſuch a looſe uſe of their words ſerves them well enough in their ordinary diſcourſes or affairs. But this is not ſufficient for philoſophical inquiries. Knowledge and reaſoning require preciſe determinate ideas. *And though* men will not be ſo importunately dull, as

not

not to underſtand what others ſay without demanding an explication of their terms; nor ſo troubleſomely critical, as to correct others in the uſe of the words they receive from them; yet where truth and knowledge are concerned in the caſe, I know not what fault it can be to deſire the explication of words, whoſe ſenſe ſeems dubious; or why a man ſhould be aſhamed to own his ignorance, in what ſenſe another man uſes his words, ſince he has no other way of certainly knowing it, but by being informed. This abuſe of taking words upon truſt has no where ſpread ſo far, nor with ſo ill effects, as amongſt men of letters. The multiplication and obſtinacy of diſputes, which have ſo laid waſte the intellectual world, is owing to nothing more, than to this ill uſe of words. For though it be generally believed that there is great diverſity of opinions in the volumes and variety of controverſies the world is diſtracted with, yet the moſt I can find that the contending learned men of different parties do, in their arguings one with another, is, that they ſpeak different languages. For I am apt to imagine, that when any of them quitting terms, think upon things, and know what they think, they think all the ſame; though perhaps what they would have, be different.

§. 23. To conclude this conſideration of the imperfection and abuſe of language; the ends of language in our diſcourſe with others, being chiefly theſe three: firſt, to make known one man's thoughts or ideas to another; ſecondly, to do it with as much eaſe and quickneſs as poſſible; and, thirdly, thereby to convey the knowledge of things: language is either abuſed or deficient, when it fails of any of theſe three.

The ends of language: 1. To convey our ideas.

Firſt, words fail in the firſt of theſe ends, and lay not open one man's ideas to another's view: 1. When men have names in their mouths without any determinate ideas in their minds, whereof they are the ſigns; or, 2. When they apply the common received names of any language to ideas, to which the common uſe of that language does not apply them: or, 3. When they apply

them very unſteadily, making them ſtand now for one, and by and by for another idea.

2. To do it with quickneſs.

§. 24. Secondly, men fail of conveying their thoughts with all the quickneſs and eaſe that may be, when they have complex ideas without having any diſtinct names for them. This is ſometimes the fault of the language itſelf, which has not in it a ſound yet applied to ſuch a ſignification; and ſometimes the fault of the man, who has not yet learned the name for that idea he would ſhow another.

3. Therewith to convey the knowledge of things.

§. 25. Thirdly, there is no knowledge of things conveyed by men's words, when their ideas agree not to the reality of things. Though it be a defect, that has its original in our ideas, which are not ſo conformable to the nature of things, as attention, ſtudy, and application might make them; yet it fails not to extend itſelf to our words too, when we uſe them as ſigns of real beings, which yet never had any reality or exiſtence.

How men's words fail in all theſe.

§. 26. Firſt, he that hath words of any language, without diſtinct ideas in his mind to which he applies them, does, ſo far as he uſes them in diſcourſe, only make a noiſe without any ſenſe or ſignification; and how learned ſoever he may ſeem by the uſe of hard words or learned terms, is not much more advanced thereby in knowledge, than he would be in learning, who had nothing in his ſtudy but the bare titles of books, without poſſeſſing the contents of them. For all ſuch words, however put into diſcourſe, according to the right conſtruction of grammatical rules, or the harmony of well-turned periods, do yet amount to nothing but bare ſounds, and nothing elſe.

§. 27. Secondly, he that has complex ideas, without particular names for them, would be in no better caſe than a bookſeller, who had in his warehouſe volumes, that lay there unbound, and without titles; which he could therefore make known to others, only by ſhowing the looſe ſheets, and communicate them only by tale. This man is hindered in his diſcourſe for want of words

to

to communicate his complex ideas, which he is therefore forced to make known by an enumeration of the ſimple ones that compoſe them; and ſo is fain often to uſe twenty words, to expreſs what another man ſignifies in one.

§. 28. Thirdly, he that puts not conſtantly the ſame ſign for the ſame idea, but uſes the ſame words ſometimes in one, and ſometimes in another ſignification, ought to paſs in the ſchools and converſation for as fair a man, as he does in the market and exchange, who ſells ſeveral things under the ſame name.

§. 29. Fourthly, he that applies the words of any language to ideas different from thoſe to which the common uſe of that country applies them, however his own underſtanding may be filled with truth and light, will not by ſuch words be able to convey much of it to others, without defining his terms. For however the ſounds are ſuch as are familiarly known, and eaſily enter the ears of thoſe who are accuſtomed to them; yet ſtanding for other ideas than thoſe they uſually are annexed to, and are wont to excite in the mind of the hearers, they cannot make known the thoughts of him who thus uſes them.

§. 30. Fifthly, he that imagined to himſelf ſubſtances ſuch as never have been, and filled his head with ideas which have not any correſpondence with the real nature of things, to which yet he gives ſettled and defined names; may fill his diſcourſe, and perhaps another man's head, with the fantaſtical imaginations of his own brain, but will be very far from advancing thereby one jot in real and true knowledge.

§. 31. He that hath names without ideas, wants meaning in his words, and ſpeaks only empty ſounds. He that hath complex ideas without names for them, wants liberty and diſpatch in his expreſſions, and is neceſſitated to uſe periphraſes. He that uſes his words looſely and unſteadily will either be not minded, or not underſtood. He that applies his names to ideas different from their common uſe, wants propriety in his language, and ſpeaks gibberiſh. And he that hath the ideas of ſubſtances diſagreeing with the real exiſtence of things, &c.

ſo far wants the materials of true knowledge in his underſtanding, and hath inſtead thereof chimeras.

How in ſubſtances.

§. 32. In our notions concerning ſubſtances, we are liable to all the former inconveniencies: v. g. he that uſes the word tarantula, without having any imagination or idea of what it ſtands for, pronounces a good word; but ſo long means nothing at all by it. 2. He that in a new-diſcovered country ſhall ſee ſeveral ſorts of animals and vegetables, unknown to him before, may have as true ideas of them, as of a horſe or a ſtag; but can ſpeak of them only by a deſcription, till he ſhall either take the names the natives call them by, or give them names himſelf. 3. He that uſes the word body ſometimes for pure extenſion, and ſometimes for extenſion and ſolidity together, will talk very fallaciouſly. 4. He that gives the name horſe to that idea, which common uſage calls mule, talks improperly, and will not be underſtood. 5. He that thinks the name centaur ſtands for ſome real being, impoſes on himſelf, and miſtakes words for things.

How in modes and relations.

§. 33. In modes and relations generally we are liable only to the four firſt of theſe inconveniencies; viz. 1. I may have in my memory the names of modes, as gratitude or charity, and yet not have any preciſe ideas annexed in my thoughts to thoſe names. 2. I may have ideas, and not know the names that belong to them; v. g. I may have the idea of a man's drinking till his colour and humour be altered, till his tongue trips, and his eyes look red, and his feet fail him; and yet not know, that it is to be called drunkenneſs. 3. I may have the ideas of virtues or vices, and names alſo, but apply them amiſs: v. g. when I apply the name frugality to that idea which others call and ſignify by this ſound, covetouſneſs. 4. I may uſe any of thoſe names with inconſtancy. 5. But, in modes and relations, I cannot have ideas diſagreeing to the exiſtence of things: for modes being complex ideas, made by the mind at pleaſure; and relation being but by way of conſidering or comparing two things together, and ſo alſo an idea of my own

own making; theſe ideas can ſcarce be found to diſagree with any thing exiſting, ſince they are not in the mind as the copies of things regularly made by nature, nor as properties inſeparably flowing from the internal conſtitution or eſſence of any ſubſtance; but as it were patterns lodged in my memory, with names annexed to them, to denominate actions and relations by, as they come to exiſt. But the miſtake is commonly in my giving a wrong name to my conceptions; and ſo uſing words in a different ſenſe from other people, I am not underſtood, but am thought to have wrong ideas of them, when I give wrong names to them. Only if I put in my ideas of mixed modes or relations any inconſiſtent ideas together, I fill my head alſo with chimeras; ſince ſuch ideas, if well examined, cannot ſo much as exiſt in the mind, much leſs any real being ever be denominated from them.

7. Figurative ſpeech alſo an abuſe of language.

§. 34. Since wit and fancy find eaſier entertainment in the world, than dry truth and real knowledge, figurative ſpeeches and alluſion in language will hardly be admitted as an imperfection or abuſe of it, I confeſs, in diſcourſes where we ſeek rather pleaſure and delight than information and improvement, ſuch ornaments as are borrowed from them can ſcarce paſs for faults. But yet if we would ſpeak of things as they are, we muſt allow that all the art of rhetorick, beſides order and clearneſs, all the artificial and figurative application of words eloquence hath invented, are for nothing elſe but to inſinuate wrong ideas, move the paſſions, and thereby miſlead the judgment, and ſo indeed are perfect cheats: and therefore however laudable or allowable oratory may render them in harangues and popular addreſſes, they are certainly, in all diſcourſes that pretend to inform or inſtruct, wholly to be avoided; and where truth and knowledge are concerned, cannot but be thought a great fault, either of the language or perſon that makes uſe of them. What, and how various they are, will be ſuperfluous here to take notice: the books of rhetorick which abound in the world, will inſtruct thoſe who want to be informed: only I cannot but obſerve how little the pre-

ſervation

ſervation and improvement of truth and knowledge is the care and concern of mankind; ſince the arts of fallacy are endowed and preferred. It is evident how much men love to deceive and be deceived, ſince rhetorick, that powerful inſtrument of error and deceit, has its eſtabliſhed profeſſors, is publickly taught, and has always been had in great reputation: and, I doubt not, but it will be thought great boldneſs, if not brutality in me, to have ſaid thus much againſt it. Eloquence, like the fair ſex, has two prevailing beauties in it, to ſuffer itſelf ever to be ſpoken againſt. And it is in vain to find fault with thoſe arts of deceiving, wherein men find pleaſure to be deceived.

CHAP. XI.

Of the Remedies of the foregoing Imperfections and Abuſes.

They are worth ſeeking.

§. 1. THE natural and improved imperfections of languages we have ſeen above at large; and ſpeech being the great bond that holds ſociety together, and the common conduit whereby the improvements of knowledge are conveyed from one man, and one generation to another; it would well deſerve our moſt ſerious thoughts to conſider what remedies are to be found for the inconveniencies above-mentioned.

Are not eaſy.

§. 2. I am not ſo vain to think, that any one can pretend to attempt the perfect reforming the languages of the world, no not ſo much as of his own country, without rendering himſelf ridiculous. To require that men ſhould uſe their words conſtantly in the ſame ſenſe, and for none but determined and uniform ideas, would be to think that all men ſhould have the ſame notions, and ſhould talk of nothing but what they have clear and diſtinct ideas of; which is not to be expected by any one, who hath not vanity enough to imagine he can prevail with men to be very knowing or very ſilent. And he muſt be very little ſkilled in the world,

world, who thinks that a voluble tongue ſhall accompany only a good underſtanding; or that men's talking much or little ſhould hold proportion only to their knowledge.

But yet neceſſary to philoſophy.

§. 3. But though the market and exchange muſt be left to their own ways of talking, and goſſipings not be robbed of their ancient privilege; though the ſchools and men of argument would perhaps take it amiſs to have any thing offered to abate the length, or leſſen the number, of their diſputes: yet methinks thoſe who pretend ſeriouſly to ſearch after or maintain truth, ſhould think themſelves obliged to ſtudy how they might deliver themſelves without obſcurity, doubtfulneſs, or equivocation, to which men's words are naturally liable, if care be not taken.

Miſuſe of words the great cauſe of errors.

§. 4. For he that ſhall well conſider the errors and obſcurity, the miſtakes and confuſion, that are ſpread in the world by an ill uſe of words, will find ſome reaſon to doubt whether language, as it has been employed, has contributed more to the improvement or hindrance of knowledge amongſt mankind. How many are there that, when they would think on things, fix their thoughts only on words, eſpecially when they would apply their minds to moral matters? And who then can wonder, if the reſult of ſuch contemplations and reaſonings, about little more than ſounds, whilſt the ideas they annexed to them are very confuſed and very unſteady, or perhaps none at all; who can wonder, I ſay, that ſuch thoughts and reaſonings end in nothing but obſcurity and miſtake, without any clear judgment and knowledge?

Obſtinacy.

§. 5. This inconvenience, in an ill uſe of words, men ſuffer in their own private meditations: but much more manifeſt are the diſorders which follow from it, in converſation, diſcourſe, and arguings with others. For language being the great conduit, whereby men convey their diſcoveries, reaſonings, and knowledge, from one to another; he that makes an ill uſe of it, though he does not corrupt the fountains of knowledge, which are in things themſelves;

yet

yet he does, as much as in him lies, break or ſtop the pipes, whereby it is diſtributed to the public uſe and advantage of mankind. He that uſes words without any clear and ſteady meaning, what does he but lead himſelf and others into errors? And he that deſignedly does it, ought to be looked on as an enemy to truth and knowledge. And yet who can wonder, that all the ſciences and parts of knowledge have been ſo overcharged with obſcure and equivocal terms, and inſignificant and doubtful expreſſions, capable to make the moſt attentive or quick-ſighted very little or not at all the more knowing or orthodox; ſince ſubtilty, in thoſe who make profeſſion to teach or defend truth, hath paſſed ſo much for a virtue: a virtue, indeed, which conſiſting for the moſt part in nothing but the fallacious and illuſory uſe of obſcure or deceitful terms, is only fit to make men more conceited in their ignorance, and more obſtinate in their errors.

And wrangling.

§. 6. Let us look into the books of controverſy of any kind; there we ſhall ſee, that the effect of obſcure, unſteady or equivocal terms, is nothing but noiſe and wrangling about ſounds, without convincing or bettering a man's underſtanding. For if the idea be not agreed on betwixt the ſpeaker and hearer, for which the words ſtand, the argument is not about things, but names. As often as ſuch a word, whoſe ſignification is not aſcertained betwixt them, comes in uſe, their underſtandings have no other object wherein they agree, but barely the ſound; the things that they think on at that time, as expreſſed by that word, being quite different.

Inſtance, bat and bird.

§. 7. Whether a bat be a bird or no, is not a queſtion; whether a bat be another thing than indeed it is, or have other qualities than indeed it has, for that would be extremely abſurd to doubt of: but the queſtion is, 1. Either between thoſe that acknowledged themſelves to have but imperfect ideas of one or both of this ſort of things, for which theſe names are ſuppoſed to ſtand; and then it is a real inquiry concerning the name of a bird or a bat, to make their yet imperfect ideas of it more complete, by examining

mining whether all the ſimple ideas, to which, combined together, they both give the name bird, be all to be found in a bat; but this is a queſtion only of inquirers (not diſputers) who neither affirm, nor deny, but examine. Or, 2. It is a queſtion between diſputants, whereof the one affirms, and the other denies, that a bat is a bird. And then the queſtion is barely about the ſignification of one or both theſe words; in that they not having both the ſame complex ideas, to which they give theſe two names, one holds, and the other denies, that theſe two names may be affirmed one of another. Were they agreed in the ſignification of theſe two names, it were impoſſible they ſhould diſpute about them: for they would preſently and clearly ſee (were that adjuſted between them) whether all the ſimple ideas, of the more general name bird, were found in the complex idea of a bat, or no; and ſo there could be no doubt, whether a bat were a bird or no. And here I deſire it may be conſidered, and carefully examined, whether the greateſt part of the diſputes in the world are not merely verbal, and about the ſignification of words; and whether if the terms they are made in were defined, and reduced in their ſignification (as they muſt be where they ſignify any thing) to determined collections of the ſimple ideas they do or ſhould ſtand for, thoſe diſputes would not end of themſelves, and immediately vaniſh. I leave it then to be conſidered, what the learning of diſputation is, and how well they are employed for the advantage of themſelves or others, whoſe buſineſs is only the vain oſtentation of ſounds; i. e. thoſe who ſpend their lives in diſputes and controverſies. When I ſhall ſee any of thoſe combatants ſtrip all his terms of ambiguity and obſcurity (which every one may do in the words he uſes himſelf) I ſhall think him a champion for knowledge, truth and peace, and not the ſlave of vain-glory, ambition, or a party.

§. 8. To remedy the defects of ſpeech before-mentioned to ſome degree, and to prevent the inconveniencies that follow from them, I imagine the obſervation of theſe following rules may be of uſe, till ſomebody better able ſhall judge it worth his while to think more maturely

maturely on this matter, and oblige the world with his thoughts on it.

1. Remedy, to uſe no word without an idea.

Firſt, a man ſhall take care to uſe no word without a ſignification, no name without an idea for which he makes it ſtand. This rule will not ſeem altogether needleſs, to any one who ſhall take the pains to recollect how often he has met with ſuch words, as inſtinct, ſympathy and antipathy, &c. in the diſcourſe of others, ſo made uſe of, as he might eaſily conclude, that thoſe that uſed them had no ideas in their minds to which they applied them; but ſpoke them only as ſounds, which uſually ſerved inſtead of reaſons on the like occaſions. Not but that theſe words, and the like, have very proper ſignifications in which they may be uſed; but there being no natural connexion between any words and any ideas, theſe, and any other, may be learned by rote, and pronounced or writ by men, who have no ideas in their minds, to which they have annexed them, and for which they make them ſtand; which is neceſſary they ſhould, if men would ſpeak intelligibly even to themſelves alone.

2. To have diſtinct ideas annexed to them in modes.

§. 9. Secondly, it is not enough a man uſes his words as ſigns of ſome ideas: thoſe he annexes them to, if they be ſimple, muſt be clear and diſtinct; if complex, muſt be determinate, i. e. the preciſe collection of ſimple ideas ſettled in the mind, with that ſound annexed to it, as the ſign of that preciſe determined collection, and no other. This is very neceſſary in names of modes, and eſpecially moral words; which having no ſettled objects in nature, from whence their ideas are taken, as from their original, are apt to be very confuſed. Juſtice is a word in every man's mouth, but moſt commonly with a very undetermined looſe ſignification: which will always be ſo, unleſs a man has in his mind a diſtinct comprehenſion of the component parts, that complex idea conſiſts of: and if it be decompounded, muſt be able to reſolve it ſtill on, till he at laſt comes to the ſimple ideas that make it up: and unleſs this be done, a man makes an ill uſe of the word, let it be juſtice, for example, or any other. I do not ſay, a man need

need ſtand to recollect and make this analyſis at large, every time the word juſtice comes in his way: but this at leaſt is neceſſary, that he have ſo examined the ſignification of that name, and ſettled the idea of all its parts in his mind, that he can do it when he pleaſes. If one, who makes his complex idea of juſtice to be ſuch a treatment of the perſon or goods of another, as is according to law, hath not a clear and diſtinct idea what law is, which makes a part of his complex idea of juſtice; it is plain his idea of juſtice itſelf will be confuſed and imperfect. This exactneſs will, perhaps, be judged very troubleſome; and therefore moſt men will think they may be excuſed from ſettling the complex ideas of mixed modes ſo preciſely in their minds. But yet I muſt ſay, till this be done, it muſt not be wondered that they have a great deal of obſcurity and confuſion in their own minds, and a great deal of wrangling in their diſcourſe with others.

And diſtinct and conformable in ſubſtances.

§. 10. In the names of ſubſtances, for a right uſe of them, ſomething more is required than barely determined ideas. In theſe the names muſt alſo be conformable to things as they exiſt: but of this I ſhall have occaſion to ſpeak more at large by and by. This exactneſs is abſolutely neceſſary in inquiries after philoſophical knowledge, and in controverſies about truth. And though it would be well too, if it extended itſelf to common converſation, and the ordinary affairs of life; yet I think that is ſcarce to be expected. Vulgar notions ſuit vulgar diſcourſes; and both, though confuſed enough, yet ſerve pretty well the market and the wake. Merchants and lovers, cooks and taylors, have words wherewithal to diſpatch their ordinary affairs; and ſo, I think, might philoſophers and diſputants too, if they had a mind to underſtand, and to be clearly underſtood.

3. Propriety.

§. 11. Thirdly, it is not enough that men have ideas, determined ideas, for which they make theſe ſigns ſtand; but they muſt alſo take care to apply their words, as near as may be, to ſuch ideas as common uſe has annexed them to. For words, eſpecially of languages already framed, being no man's pri-

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vate poſſeſſion, but the common meaſure of commerce and communication, it is not for any one, at pleaſure, to change the ſtamp they are current in, nor alter the ideas they are affixed to; or at leaſt, when there is a neceſſity to do ſo, he is bound to give notice of it. Men's intentions in ſpeaking are, or at leaſt ſhould be, to be underſtood; which cannot be without frequent explanations, demands, and other the like incommodious interruptions, where men do not follow common uſe. Propriety of ſpeech is that which gives our thoughts entrance into other men's minds with the greateſt eaſe and advantage; and therefore deſerves ſome part of our care and ſtudy, eſpecially in the names of moral words. The proper ſignification and uſe of terms is beſt to be learned from thoſe, who in their writings and diſcourſes appear to have had the cleareſt notions, and applied to them their terms with the exacteſt choice and fitneſs. This way of uſing a man's words, according to the propriety of the language, though it have not always the good fortune to be underſtood; yet moſt commonly leaves the blame of it on him, who is ſo unſkilful in the language he ſpeaks, as not to underſtand it, when made uſe of as it ought to be.

4. To make known their meaning.

§. 12. Fourthly, but becauſe common uſe has not ſo viſibly annexed any ſignification to words, as to make men know always certainly what they preciſely ſtand for; and becauſe men, in the improvement of their knowledge, come to have ideas different from the vulgar and ordinary received ones, for which they muſt either make new words (which men ſeldom venture to do, for fear of being thought guilty of affectation or novelty) or elſe muſt uſe old ones, in a new ſignification: therefore after the obſervation of the foregoing rules, it is ſometimes neceſſary, for the aſcertaining the ſignification of words, to declare their meaning; where either common uſe has left it uncertain and looſe (as it has in moſt names of very complex ideas) or where the term, being very material in the diſcourſe, and that upon which it chiefly turns, is liable to any doubtfulneſs or miſtake.

§. 13.

§. 13. As the ideas, men's words ſtand for, are of different ſorts; ſo the way of making known the ideas, they ſtand for, when there is occaſion, is alſo different. For though defining be thought the proper way to make known the proper ſignification of words; yet there are ſome words that will not be defined, as there are others, whoſe preciſe meaning cannot be made known, but by definition; and perhaps a third, which partake ſomewhat of both the other, as we ſhall ſee in the names of ſimple ideas, modes, and ſubſtances.

And that three ways.

§. 14. Firſt, when a man makes uſe of the name of any ſimple idea, which he perceives is not underſtood, or is in danger to be miſtaken, he is obliged by the laws of ingenuity, and the end of ſpeech, to declare his meaning, and make known what idea he makes it ſtand for. This, as has been ſhown, cannot be done by definition; and therefore, when a ſynonymous word fails to do it, there is but one of theſe ways left. Firſt, ſometimes the naming the ſubject, wherein that ſimple idea is to be found, will make its name to be underſtood by thoſe who are acquainted with that ſubject, and know it by that name. So to make a countryman underſtand what "feuillemorte" colour ſignifies, it may ſuffice to tell him, it is the colour of withered leaves falling in autumn. Secondly, but the only ſure way of making known the ſignification of the name of any ſimple idea is by preſenting to his ſenſes that ſubject, which may produce it in his mind, and make him actually have the idea that word ſtands for.

1. In ſimple ideas by ſynonymous terms, or ſhowing.

§. 15. Secondly, mixed modes, eſpecially thoſe belonging to morality, being moſt of them ſuch combinations of ideas, as the mind puts together of its own choice, and whereof there are not always ſtanding patterns to be found exiſting; the ſignification of their names cannot be made known, as thoſe of ſimple ideas, by any ſhowing; but, in recompence thereof, may be perfectly and exactly defined. For they being combinations of ſeveral ideas, that the mind of man has arbitrarily put together, without re-

2. In mixed modes, by definition.

ference to any archetypes, men may, if they pleaſe, exactly know the ideas that go to each compoſition, and ſo both uſe theſe words in a certain and undoubted ſignification, and perfectly declare, when there is occaſion, what they ſtand for. This, if well conſidered, would lay great blame on thoſe, who make not their diſcourſes about moral things very clear and diſtinct. For ſince the preciſe ſignification of the names of mixed modes, or, which is all one, the real eſſence of each ſpecies is to be known, they being not of nature's but man's making, it is a great negligence and perverſeneſs to diſcourſe of moral things with uncertainty and obſcurity; which is more pardonable in treating of natural ſubſtances, where doubtful terms are hardly to be avoided, for a quite contrary reaſon, as we ſhall ſee by and by.

Morality capable of demonſtration.

§. 16. Upon this ground it is, that I am bold to think, that morality is capable of demonſtration, as well as mathematicks: ſince the preciſe real eſſence of the things moral words ſtand for may be perfectly known; and ſo the congruity and incongruity of the things themſelves be certainly diſcovered; in which conſiſts perfect knowledge. Nor let any one object, that the names of ſubſtances are often to be made uſe of in morality, as well as thoſe of modes, from which will ariſe obſcurity. For as to ſubſtances, when concerned in moral diſcourſes, their divers natures are not ſo much inquired into, as ſuppoſed; v. g. when we ſay that man is ſubject to law, we mean nothing by man, but a corporeal rational creature: what the real eſſence or other qualities of that creature are, in this caſe, is no way conſidered. And therefore, whether a child or changeling be a man in a phyſical ſenſe, may amongſt the naturaliſts be as diſputable as it will, it concerns not at all the moral man, as I may call him, which is this immoveable unchangeable idea, a corporeal rational being. For were there a monkey, or any other creature to be found, that has the uſe of reaſon to ſuch a degree as to be able to underſtand general ſigns, and to deduce conſequences about general ideas, he would no doubt be ſubject to law, and in that ſenſe be a man, how much ſoever he differed in ſhape

from others of that name. The names of ſubſtances, if they be uſed in them as they ſhould, can no more diſturb moral than they do mathematical diſcourſes: where, if the mathematician ſpeaks of a cube or globe of gold, or any other body, he has his clear ſettled idea which varies not, though it may by miſtake be applied to a particular body to which it belongs not.

Definitions can make moral diſcourſes clear.

§. 17. This I have here mentioned by the by, to ſhow of what conſequence it is for men, in their names of mixed modes, and conſequently in all their moral diſcourſes, to define their words when there is occaſion: ſince thereby moral knowledge may be brought to ſo great clearneſs and certainty. And it muſt be great want of ingenuity (to ſay no worſe of it) to refuſe to do it: ſince a definition is the only way whereby the preciſe meaning of moral words can be known; and yet a way whereby their meaning may be known certainly, and without leaving any room for any conteſt about it. And therefore the negligence or perverſeneſs of mankind cannot be excuſed, if their diſcourſes in morality be not much more clear than thoſe in natural philoſophy: ſince they are about ideas in the mind, which are none of them falſe or diſproportionate: they having no external beings for the archetypes which they are referred to, and muſt correſpond with. It is far eaſier for men to frame in their minds an idea which ſhall be the ſtandard to which they will give the name juſtice, with which pattern ſo made, all actions that agree ſhall paſs under that denomination; than, having ſeen Ariſtides, to frame an idea that ſhall in all things be exactly like him; who is as he is, let men make what idea they pleaſe of him. For the one, they need but know the combination of ideas that are put together in their own minds; for the other, they muſt inquire into the whole nature, and abſtruſe hidden conſtitution, and various qualities of a thing exiſting without them.

And is the only way.

§. 18. Another reaſon that makes the defining of mixed modes ſo neceſſary, eſpecially of moral words, is what I mentioned a little before, viz. that it is the only way whereby the

ſignification of the moſt of them can be known with certainty. For the ideas they ſtand for, being for the moſt part ſuch whoſe component parts no where exiſt together, but ſcattered and mingled with others, it is the mind alone that collects them, and gives them the union of one idea: and it is only by words, enumerating the ſeveral ſimple ideas which the mind has united, that we can make known to others what their names ſtand for; the aſſiſtance of the ſenſes in this caſe not helping us, by the propoſal of ſenſible objects, to ſhow the ideas which our names of this kind ſtand for, as it does often in the names of ſenſible ſimple ideas, and alſo to ſome degree in thoſe of ſubſtances.

3. In ſubſtances, by ſhowing and defining.

§. 19. Thirdly, for the explaining the ſignification of the names of ſubſtances, as they ſtand for the ideas we have of their diſtinct ſpecies, both the fore-mentioned ways, viz. of ſhowing and defining, are requiſite in many caſes to be made uſe of. For there being ordinarily in each ſort ſome leading qualities, to which we ſuppoſe the other ideas, which make up our complex idea of that ſpecies, annexed; we forwardly give the ſpecifick name to that thing, wherein that characteriſtical mark is found, which we take to be the moſt diſtinguiſhing idea of that ſpecies. Theſe leading or characteriſtical (as I may call them) ideas, in the ſorts of animals and vegetables, are (as has been before remarked, ch. vi. §. 29. and ch. ix. §. 15.) moſtly figure, and in inanimate bodies, colour, and in ſome both together. Now,

Ideas of the leading qualities of ſubſtances are beſt got by ſhowing.

§. 20. Theſe leading ſenſible qualities are thoſe which make the chief ingredients of our ſpecifick ideas, and conſequently the moſt obſervable and invariable part in the definitions of our ſpecifick names, as attributed to ſorts of ſubſtances coming under our knowledge. For though the ſound man, in its own nature, be as apt to ſignify a complex idea made up of animality and rationality, united in the ſame ſubject, as to ſignify any other combination; yet uſed as a mark to ſtand for a ſort of creatures we count of our own kind, *perhaps*, the outward ſhape is as neceſſary to be taken

into our complex idea, ſignified by the word man, as any other we find in it: and therefore why Plato's "animal implume bipes latis unguibus" ſhould not be a good definition of the name man, ſtanding for that ſort of creatures, will not be eaſy to ſhow: for it is the ſhape, as the leading quality, that ſeems more to determine that ſpecies, than a faculty of reaſoning, which appears not at firſt, and in ſome never. And if this be not allowed to be ſo, I do not know how they can be excuſed from murder, who kill monſtrous births, (as we call them) becauſe of an unordinary ſhape, without knowing whether they have a rational ſoul or no; which can be no more diſcerned in a well-formed than ill-ſhaped infant, as ſoon as born. And who is it has informed us, that a rational ſoul can inhabit no tenement, unleſs it has juſt ſuch a ſort of frontiſpiece; or can join itſelf to, and inform no ſort of body but one that is juſt of ſuch an outward ſtructure?

§. 21. Now theſe leading qualities are beſt made known by ſhowing, and can hardly be made known otherwiſe. For the ſhape of an horſe, or caſſuary, will be but rudely and imperfectly imprinted on the mind by words; the ſight of the animals doth it a thouſand times better: and the idea of the particular colour of gold is not to be got by any deſcription of it, but only by the frequent exerciſe of the eyes about it, as is evident in thoſe who are uſed to this metal, who will frequently diſtinguiſh true from counterfeit, pure from adulterate, by the ſight; where others (who have as good eyes, but yet by uſe have not got the preciſe nice idea of that peculiar yellow) ſhall not perceive any difference. The like may be ſaid of thoſe other ſimple ideas, peculiar in their kind to any ſubſtance; for which preciſe ideas there are no peculiar names. The particular ringing ſound there is in gold, diſtinct from the ſound of other bodies, has no particular name annexed to it, no more than the particular yellow that belongs to that metal.

The ideas of their powers beſt by definition.

§. 22. But becauſe many of the ſimple ideas that make up our ſpecifick ideas of ſubſtances, are powers which lie not obvious to our ſenſes in the things as they ordi-

ordinarily appear; therefore in the ſignification of our names of ſubſtances, ſome part of the ſignification will be better made known by enumerating thoſe ſimple ideas, than by ſhowing the ſubſtance itſelf. For he that to the yellow ſhining colour of gold got by ſight, ſhall, from my enumerating them, have the ideas of great ductility, fuſibility, fixedneſs, and ſolubility in aq. regia, will have a perfecter idea of gold, than he can have by ſeeing a piece of gold, and thereby imprinting in his mind only its obvious qualities. But if the formal conſtitution of this ſhining, heavy, ductile thing (from whence all theſe its properties flow) lay open to our ſenſes, as the formal conſtitution, or eſſence of a triangle does, the ſignification of the word gold might as eaſily be aſcertained as that of triangle.

A reflection on the knowledge of ſpirits.

§. 23. Hence we may take notice how much the foundation of all our knowledge of corporeal things lies in our ſenſes. For how ſpirits, ſeparate from bodies (whoſe knowledge and ideas of theſe things are certainly much more perfect than ours) know them, we have no notion, no idea at all. The whole extent of our knowledge or imagination reaches not beyond our own ideas limited to our ways of perception. Though yet it be not to be doubted that ſpirits of a higher rank than thoſe immerſed in fleſh, may have as clear ideas of the radical conſtitution of ſubſtances, as we have of a triangle, and ſo perceive how all their properties and operations flow from thence: but the manner how they come by that knowledge exceeds our conceptions.

4. Ideas alſo of ſubſtances muſt be conformable to things.

§. 24. But though definitions will ſerve to explain the names of ſubſtances as they ſtand for our ideas; yet they leave them not without great imperfection as they ſtand for things. For our names of ſubſtances being not put barely for our ideas, but being made uſe of ultimately to repreſent things, and ſo are put in their place; their ſignification muſt agree with the truth of things as well as with men's ideas. And therefore in ſubſtances we are not always to reſt in the ordinary *complex idea*, commonly received as the ſignification

of

of that word, but muſt go a little farther, and inquire into the nature and properties of the things themſelves, and thereby perfect, as much as we can, our ideas of their diſtinct ſpecies; or elſe learn them from ſuch as are uſed to that ſort of things, and are experienced in them. For ſince it is intended their names ſhould ſtand for ſuch collections of ſimple ideas as do really exiſt in things themſelves, as well as for the complex idea in other men's minds, which in their ordinary acceptation they ſtand for: therefore to define their names right, natural hiſtory is to be inquired into; and their properties are, with care and examination, to be found out. For it is not enough, for the avoiding inconveniencies in diſcourſe and arguings about natural bodies and ſubſtantial things, to have learned, from the propriety of the language, the common, but confuſed, or very imperfect idea, to which each word is applied, and to keep them to that idea in our uſe of them: but we muſt, by acquainting ourſelves with the hiſtory of that ſort of things, rectify and ſettle our complex idea belonging to each ſpecific name; and in diſcourſe with others, (if we find them miſtake us) we ought to tell what the complex idea is, that we make ſuch a name ſtand for. This is the more neceſſary to be done by all thoſe who ſearch after knowledge and philoſophical verity, in that children, being taught words whilſt they have but imperfect notions of things, apply them at random, and without much thinking, and ſeldom frame determined ideas to be ſignified by them. Which cuſtom (it being eaſy, and ſerving well enough for the ordinary affairs of life and converſation) they are apt to continue when they are men: and ſo begin at the wrong end, learning words firſt and perfectly, but make the notions to which they apply thoſe words afterwards very overtly. By this means it comes to paſs, that men ſpeaking the proper language of their country, i. e. according to grammar rules of that language, do yet ſpeak very improperly of things themſelves; and, by their arguing one with another, make but ſmall progreſs in the diſcoveries of uſeful truths, and the knowledge of things, as they are to be found in themſelves, and not in our ima-

imaginations; and it matters not much, for the improvement of our knowledge, how they are called.

Not eaſy to be made ſo.

§. 25. It were therefore to be wiſhed, that men, verſed in phyſical inquiries, and acquainted with the ſeveral ſorts of natural bodies, would ſet down thoſe ſimple ideas, wherein they obſerve the individuals of each ſort conſtantly to agree. This would remedy a great deal of that confuſion which comes from ſeveral perſons applying the ſame name to a collection of a ſmaller or greater number of ſenſible qualities, proportionably as they have been more or leſs acquainted with, or accurate in examining the qualities of any ſort of things which come under one denomination. But a dictionary of this ſort containing, as it were, a natural hiſtory, requires too many hands, as well as too much time, coſt, pains, and ſagacity, ever to be hoped for; and till that be done, we muſt content ourſelves with ſuch definitions of the names of ſubſtances as explain the ſenſe men uſe them in. And it would be well, where there is occaſion, if they would afford us ſo much. This yet is not uſually done; but men talk to one another, and diſpute in words, whoſe meaning is not agreed between them, out of a miſtake, that the ſignifications of common words are certainly eſtabliſhed, and the preciſe ideas they ſtand for perfectly known; and that it is a ſhame to be ignorant of them. Both which ſuppoſitions are falſe: no names of complex ideas having ſo ſettled determined ſignifications, that they are conſtantly uſed for the ſame preciſe ideas. Nor is it a ſhame for a man not to have a certain knowledge of any thing, but by the neceſſary ways of attaining it; and ſo it is no diſcredit not to know what preciſe idea any ſound ſtands for in another man's mind, without he declare it to me by ſome other way than barely uſing that ſound; there being no other way, without ſuch a declaration, certainly to know it. Indeed the neceſſity of communication by language brings men to an agreement in the ſignification of common words, within ſome tolerable latitude, that may ſerve for ordinary converſation: and ſo a man cannot be ſuppoſed wholly ignorant of the ideas which are annexed to words by common

mon uſe, in a language familiar to him. But common uſe, being but a very uncertain rule, which reduces itſelf at laſt to the ideas of particular men, proves often but a very variable ſtandard. But though ſuch a dictionary, as I have above-mentioned, will require too much time, coſt, and pains, to be hoped for in this age; yet methinks it is not unreaſonable to propoſe, that words ſtanding for things, which are known and diſtinguiſhed by their outward ſhapes, ſhould be expreſſed by little draughts and prints made of them. A vocabulary made after this faſhion would perhaps, with more eaſe, and in leſs time, teach the true ſignification of many terms, eſpecially in languages of remote countries or ages, and ſettle truer ideas in men's minds of ſeveral things, whereof we read the names in ancient authors, than all the large and laborious comments of learned criticks. Naturaliſts, that treat of plants and animals, have found the benefit of this way: and he that has had occaſion to conſult them, will have reaſon to confeſs, that he has a clearer idea of apium or ibex, from a little print of that herb or beaſt, than he could have from a long definition of the names of either of them. And ſo no doubt he would have of ſtrigil and ſiſtrum, if inſtead of curry-comb and cymbal, which are the Engliſh names dictionaries render them by, he could ſee ſtamped in the margin ſmall pictures of theſe inſtruments, as they were in uſe amongſt the ancients. "Toga, tunica, pallium," are words eaſily tranſlated by gown, coat, and cloak; but we have thereby no more true ideas of the faſhion of thoſe habits amongſt the Romans, than we have of the faces of the taylors who made them. Such things as theſe, which the eye diſtinguiſhes by their ſhapes, would be beſt let into the mind by draughts made of them, and more determine the ſignification of ſuch words than any other words ſet for them, or made uſe of to define them. But this only by the by.

5. By conſtancy in their ſignification.

§. 26. Fifthly, if men will not be at the pains to declare the meaning of their words, and definitions of their terms are not to be had; yet this is the leaſt that can be expected, that in all diſcourſes, wherein one man pretends

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to inſtruct or convince another, he ſhould uſe the ſame word conſtantly in the ſame ſenſe: if this were done (which no body can refuſe without great diſingenuity) many of the books extant might be ſpared; many of the controverſies in diſpute would be at an end; ſeveral of thoſe great volumes, ſwoln with ambiguous words, now uſed in one ſenſe, and by and by in another, would ſhrink into a very narrow compaſs; and many of the philoſophers (to mention no other) as well as poets works, might be contained in a nutſhell.

When the variation is to be explained.

§. 27. But after all, the proviſion of words is ſo ſcanty in reſpect of that infinite variety of thoughts, that men, wanting terms to ſuit their preciſe notions, will, notwithſtanding their utmoſt caution, be forced often to uſe the ſame word in ſomewhat different ſenſes. And though in the continuation of a diſcourſe, or the purſuit of an argument, there can be hardly room to digreſs into a particular definition, as often as a man varies the ſignification of any term; yet the import of the diſcourſe will, for the moſt part, if there be no deſigned fallacy, ſufficiently lead candid and intelligent readers into the true meaning of it: but where there is not ſufficient to guide the reader, there it concerns the writer to explain his meaning, and ſhow in what ſenſe he there uſes that term.

BOOK IV.

CHAP. I.

Of Knowledge in General.

Our knowledge converſant about our ideas.

§. 1. SINCE the mind, in all its thoughts and reaſonings, hath no other immediate object but its own ideas, which it alone does or can contemplate; it is evident, that our knowledge is only converſant about them.

§. 2.

§. 2. Knowledge then ſeems to me to be nothing but the perception of the connexion and agreement, or diſagreement and repugnancy, of any of our ideas. In this alone it conſiſts. Where this perception is, there is knowledge; and where it is not, there, though we may fancy, gueſs, or believe, yet we always come ſhort of knowledge. For when we know that white is not black, what do we elſe but perceive that theſe two ideas do not agree? When we poſſeſs ourſelves with the utmoſt ſecurity of the demonſtration, that the three angles of a triangle are equal to two right ones, what do we more but perceive, that equality to two right ones does neceſſarily agree to, and is inſeparable from the three angles of a triangle *?

Knowledge is the perception of the agreement or diſagreement of two ideas.

§. 3.

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* The placing of certainty, as Mr. Locke does, in the perception of the agreement or diſagreement of our ideas, the biſhop of Worceſter ſuſpects may be of dangerous conſequence to that article of faith which he has endeavoured to defend; to which Mr. Locke anſwers, † ſince your lordſhip hath not, as I remember, ſhown, or gone about to ſhow, how this propoſition, viz. that certainty conſiſts in the perception of the agreement or diſagreement of two ideas, is oppoſite or inconſiſtent with that article of faith which your lordſhip has endeavoured to defend; it is plain, it is but your lordſhip's fear, that it may be of dangerous conſequence to it, which, as I humbly conceive, is no proof that it is any way inconſiſtent with that article.

No body, I think, can blame your lordſhip, or any one elſe, for being concerned for any article of the chriſtian faith; but if that concern (as it may, and as we know it has done) makes any one apprehend danger, where no danger is, are we, therefore, to give up and condemn any propoſition, becauſe any one, though of the firſt rank and magnitude, fears it may be of dangerous conſequence to any truth of religion, without ſhowing that it is ſo? If ſuch fears be the meaſures whereby to judge of truth and falſhood, the affirming that there are antipodes would be ſtill a hereſy; and the doctrine of the motion of the earth muſt be rejected, as overthrowing the truth of the ſcripture; for of that dangerous conſequence it has been apprehended to be, by many learned and pious divines, out of their great concern for religion. And yet, notwithſtanding thoſe great apprehenſions of what dangerous conſequence it might be, it is now univerſally received by learned men, as an undoubted truth; and writ for by ſome, whoſe belief of the ſcripture is not at all queſtioned; and particularly, very lately, by a divine of the church of England, with great ſtrength of reaſon, in his wonderful ingenious New Theory of the Earth.

† In his 2d letter to the biſhop of Worceſter.

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This agreement fourfold.

§. 3. But to underſtand a little more diſtinctly wherein this agreement or diſagreement conſiſts, I think we may reduce it all to theſe four ſorts:

1. Identity, or diverſity.
2. Relation.
3. Co-exiſtence, or neceſſary connexion.
4. Real exiſtence.

1. Of identity or diverſity.

§. 4. Firſt, as to the firſt ſort of agreement or diſagreement, viz. identity or diverſity. It is the firſt act of the mind, when it has any ſentiments or ideas at all, to perceive its ideas; and ſo far as it perceives them, to know each what it is, and thereby alſo to perceive their difference, and that one is not another. This is ſo abſolutely

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The reaſon your lordſhip gives of your fears, that it may be of ſuch dangerous conſequence to that article of faith which your lordſhip endeavours to defend, though it occur in more places than one, is only this, viz. That it is made uſe of by ill men to do miſchief, i. e. to oppoſe that article of faith which your lordſhip hath endeavoured to defend. But, my lord, if it be a reaſon to lay by any thing as bad, becauſe it is, or may be uſed to an ill purpoſe, I know not what will be innocent enough to be kept. Arms, which were made for our defence, are ſometimes made uſe of to do miſchief; and yet they are not thought of dangerous conſequence for all that. No body lays by his ſword and piſtols, or thinks them of ſuch dangerous conſequence as to be neglected, or thrown away, becauſe robbers, and the worſt of men, ſometimes make uſe of them, to take away honeſt men's lives or goods. And the reaſon is, becauſe they were deſigned, and will ſerve to preſerve them. And who knows but this may be the preſent caſe? If your lordſhip thinks, that placing of certainty in the perception of the agreement or diſagreement of ideas be to be rejected as falſe, becauſe you apprehend it may be of dangerous conſequence to that article of faith: on the other ſide, perhaps others, with me, may think it a defence againſt error, and ſo (as being of good uſe) to be received and adhered to.

I would not, my lord, be hereby thought to ſet up my own, or any one's judgment againſt your lordſhip's. But I have ſaid this only to ſhow, whilſt the argument lies for or againſt the truth of any propoſition, barely in an imagination that it may be of conſequence to the ſupporting or overthrowing of any remote truth; it will be impoſſible, that way, to determine of the truth or falſhood of that propoſition. For imagination will be ſet up againſt imagination, and the ſtronger probably will be againſt your lordſhip; the ſtrongeſt imaginations being uſually in the weakeſt heads. The only way, in this caſe, to put it paſt doubt, is to ſhow the inconſiſtency of the two propoſitions; and then it will be ſeen, *that one overthrows* the other; the true, the falſe one.

Your

lutely neceſſary, that without it there could be no knowledge, no reaſoning, no imagination, no diſtinct thoughts at all. By this the mind clearly and infallibly perceives each idea to agree with itſelf, and to be what it is; and all diſtinct ideas to diſagree, i. e. the one not to be the other: and this it does without pains, labour, or deduction; but at firſt view, by its natural power of perception and diſtinction. And though men of art have reduced this into thoſe general rules, "what is, is;" and "it is impoſſible for the ſame thing to be and not to be;" for ready application in all caſes, wherein there may be occaſion to reflect on it: yet it is certain, that the firſt exerciſe of this faculty is about particular ideas. A man infallibly knows, as ſoon as ever he has them in his mind, that the ideas he calls white and round, are the

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Your lordſhip ſays, indeed, this is a new method of certainty. I will not ſay ſo myſelf, for fear of deſerving a ſecond reproof from your lordſhip, for being too forward to aſſume to myſelf the honour of being an original. But this, I think, gives me occaſion, and will excuſe me from being thought impertinent, if I aſk your lordſhip, whether there be any other, or older method of certainty? and what it is? For, if there be no other, nor older than this, either this was always the method of certainty, and ſo mine is no new one; or elſe the world is obliged to me for this new one, after having been ſo long in the want of ſo neceſſary a thing as a method of certainty. If there be an older, I am ſure your lordſhip cannot but know it; your condemning mine as new, as well as your thorough inſight into antiquity, cannot but ſatisfy every body that you do. And therefore to ſet the world right in a thing of that great concernment, and to overthrow mine, and thereby prevent the dangerous conſequence there is in my having unreaſonably ſtarted it, will not, I humbly conceive, miſbecome your lordſhip's care of that article you have endeavoured to defend, nor the good-will you bear to truth in general. For I will be anſwerable for myſelf, that I ſhall; and I think I may be for all others, that they all will give off the placing of certainty in the perception of the agreement or diſagreement of ideas, if your lordſhip will be pleaſed to ſhow, that it lies in any thing elſe.

But truly, not to aſcribe to myſelf an invention of what has been as old as knowledge is in the world, I muſt own, I am not guilty of what your lordſhip is pleaſed to call ſtarting new methods of certainty. Knowledge, ever ſince there has been any in the world, has conſiſted in one particular action in the mind; and ſo, I conceive, will continue to do to the end of it. And to ſtart new methods of knowledge, or certainty, (for they are to me the ſame thing) i. e. to find out and propoſe new methods of attaining knowledge, either with more eaſe and quickneſs, or in things yet unknown, is what I think no body could blame: but this is not that which your lordſhip here means, by new methods of certainty. Your lord-

the very ideas they are, and that they are not other ideas which he calls red or ſquare. Nor can any maxim or propoſition in the world make him know it clearer or ſurer than he did before, and without any ſuch general rule. This then is the firſt agreement or diſagreement, which the mind perceives in its ideas; which it always perceives at firſt ſight: and if there ever happen any doubt about it, it will always be found to be about the names, and not the ideas themſelves, whoſe identity and diverſity will always be perceived, as ſoon and clearly as the ideas themſelves are; nor can it poſſibly be otherwiſe.

2. Relative. §. 5. Secondly, the next ſort of agreement or diſagreement, the mind perceives in any of its ideas, may, I think, be called relative, and is nothing but the perception of the relation between any

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lordſhip, I think, means by it, the placing of certainty in ſomething, wherein either it does not conſiſt, or elſe wherein it was not placed before now; if this be to be called a new method of certainty. As to the latter of theſe, I ſhall know whether I am guilty or no, when your lordſhip will do me the favour to tell me, wherein it was placed before: which your lordſhip knows I profeſſed myſelf ignorant of, when I writ my book, and ſo I am ſtill. But if ſtarting new methods of certainty, be the placing of certainty in ſomething wherein it does not conſiſt; whether I have done that or no, I muſt appeal to the experience of mankind.

There are ſeveral actions of men's minds, that they are conſcious to themſelves of performing, as willing, believing, knowing, &c. which they have ſo particular ſenſe of, that they can diſtinguiſh them one from another; or elſe they could not ſay, when they willed, when they believed, and when they knew any thing. But though theſe actions were different enough from one another, not to be confounded by thoſe who ſpoke of them, yet no body, that I had met with, had, in their writings, particularly ſet down wherein the act of knowing preciſely conſiſted.

To this reflection upon the actions of my own mind the ſubject of my Eſſay concerning Human Underſtanding naturally led me; wherein if I have done any thing new, it has been to deſcribe to others, more particularly than had been done before, what it is their minds do when they perform that action which they call knowing; and if, upon examination, they obſerve I have given a true account of that action of their minds in all the parts of it, I ſuppoſe it will be in vain to diſpute againſt what they find and feel in themſelves. And if I have not told them right and exactly what they find and feel in themſelves, when their minds perform the act of knowing, what I have ſaid will be all in vain; men will not be perſuaded againſt their ſenſes. Knowledge is an internal perception of their minds; and if, when they reflect on it, they find it is not what I have ſaid it is, my groundleſs conceit will not be hearkened to, but be exploded by every body, and die of itſelf: and no body need to be at any pains to drive

any two ideas, of what kind ſoever, whether ſubſtances, modes, or any other. For ſince all diſtinct ideas muſt eternally be known not to be the ſame, and ſo be univerſally and conſtantly denied one of another, there could be no room for any poſitive knowledge at all, if we could not perceive any relation between our ideas, and find out the agreement or diſagreement they have one with another, in ſeveral ways the mind takes of comparing them.

3. Of co-exiſtence.

§. 6. Thirdly, the third ſort of agreement, or diſagreement, to be found in our ideas, which the perception of the mind is employed about, is co-exiſtence, or non-co-exiſtence in the ſame ſubject; and this belongs particularly to ſubſtances. Thus when we pronounce concerning gold that

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drive it out of the world. So impoſſible is it to find out, or ſtart new methods of certainty, or to have them received, if any one places it in any thing, but in that wherein it really conſiſts: much leſs can any one be in danger to be miſled into error, by any ſuch new, and to every one viſibly ſenſeleſs project. Can it be ſuppoſed, that any one could ſtart a new method of ſeeing, and perſuade men thereby, that they do not ſee what they do ſee? Is it to be feared, that any one can caſt ſuch a miſt over their eyes, that they ſhould not know when they ſee, and ſo be led out of their way by it?

Knowledge, I find in myſelf, and I conceive in others, conſiſts in the perception of the agreement or diſagreement of the immediate objects of the mind in thinking, which I call ideas: but whether it does ſo in others or no, muſt be determined by their own experience, reflecting upon the action of their mind in knowing; for that I cannot alter, nor, I think, they themſelves. But whether they will call thoſe immediate objects of their minds in thinking ideas or no, is perfectly in their own choice. If they diſlike that name, they may call them notions or conceptions, or how they pleaſe; it matters not, if they uſe them ſo as to avoid obſcurity and confuſion. If they are conſtantly uſed in the ſame and a known ſenſe, every one has the liberty to pleaſe himſelf in his terms; there lies neither truth, nor error, nor ſcience, in that; though thoſe that take them for things, and not for what they are, bare arbitrary ſigns of our ideas, make a great deal ado often about them; as if ſome great matter lay in the uſe of this or that ſound. All that I know, or can imagine of difference about them, is, that thoſe words are always beſt, whoſe ſignifications are beſt known in the ſenſe they are uſed; and ſo are leaſt apt to breed confuſion.

My lord, your lordſhip hath been pleaſed to find fault with my uſe of the new term, ideas, without telling me a better name for the immediate objects of the mind in thinking. Your lordſhip alſo has been pleaſed to find fault with my definition of knowledge, without doing me the favour

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that it is fixed, our knowledge of this truth amounts to no more but this, that fixedneſs, or a power to remain in the fire unconſumed, is an idea that always accompanies, and is joined with that particular ſort of yellowneſs, weight, fuſibility, malleableneſs, and ſolubility in aq. regia, which make our complex idea, ſignified by the word gold.

4. Of real exiſtence.

§. 7. Fourthly, the fourth and laſt ſort is that of actual and real exiſtence agreeing to any idea. Within theſe four ſorts of agreement or diſagreement, is, I ſuppoſe, contained all the knowledge we have, or are capable of: for all the inquiries we can make concerning any of our ideas, all that we know or can affirm concerning any of them, is, that it is, or is not, the ſame with ſome other; that it does,

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to give me a better. For it is only about my definition of knowledge that all this ſtir concerning certainty is made. For, with me, to know and to be certain, is the ſame thing; what I know, that I am certain of; and what I am certain of, that I know. What reaches to knowledge, I think may be called certainty; and what comes ſhort of certainty, I think cannot be called knowledge; as your lordſhip could not but obſerve in the 18th ſection of chap. 4. of my 4th book, which you have quoted.

My definition of knowledge ſtands thus: "knowledge ſeems to me to be nothing but the perception of the connexion and agreement, or diſagreement and repugnancy of any of our ideas." This definition your lordſhip diſlikes, and apprehends it may be of dangerous conſequence as to that article of chriſtian faith which your lordſhip hath endeavoured to defend. For this there is a very eaſy remedy: it is but for your lordſhip to ſet aſide this definition of knowledge by giving us a better, and this danger is over. But your lordſhip chooſes rather to have a controverſy with my book for having it in it, and to put me upon the defence of it; for which I muſt acknowledge myſelf obliged to your lordſhip for affording me ſo much of your time, and for allowing me the honour of converſing ſo much with one ſo far above me in all reſpects.

Your lordſhip ſays, it may be of dangerous conſequence to that article of chriſtian faith which you have endeavoured to defend. Though the laws of diſputing allow bare denial as a ſufficient anſwer to ſayings, without any offer of a proof: yet, my lord, to ſhow how willing I am to give your lordſhip all ſatisfaction, in what you apprehend may be of dangerous conſequence in my book, as to that article, I ſhall not ſtand ſtill ſullenly, and put your lordſhip upon the difficulty of ſhowing wherein that danger lies; but ſhall on the other ſide, endeavour to ſhow your lordſhip that that definition of mine, whether true or falſe, right or wrong, can be of no dangerous conſequence to that article of faith. The reaſon which I ſhall offer for it, is this: becauſe it can be of no conſequence to it at all.

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does, or does not, always co-exiſt with ſome other idea in the ſame ſubject; that it has this or that relation with ſome other idea; or that it has a real exiſtence without the mind. Thus blue is not yellow; is of identity: two triangles upon equal baſes between two parallels are equal; is of relation: iron is ſuſceptible of magnetical impreſſions; is of co-exiſtence: God is; is of real exiſtence. Though identity and co-exiſtence are truly nothing but relations, yet they are ſuch peculiar ways of agreement or diſagreement of our ideas, that they deſerve well to be conſidered as diſtinct heads, and not under relation in general; ſince they are ſo different grounds of affirmation and negation, as will eaſily appear to any one, who will but reflect on what is ſaid in ſeveral

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That which your lordſhip is afraid it may be dangerous to, is an article of faith: that which your lordſhip labours and is concerned for, is the certainty of faith. Now, my lord, I humbly conceive the certainty of faith, if your lordſhip thinks fit to call it ſo, has nothing to do with the certainty of knowledge. As to talk of the certainty of faith, ſeems all one to me, as to talk of the knowledge of believing, a way of ſpeaking not eaſy to me to underſtand.

Place knowledge in what you will; ſtart what new methods of certainty you pleaſe, that are apt to leave men's minds more doubtful than before; place certainty on ſuch ground as will leave little or no knowledge in the world: (for theſe are the arguments your lordſhip uſes againſt my definition of knowledge) this ſhakes not at all, nor in the leaſt concerns the aſſurance of faith; that is quite diſtinct from it, neither ſtands nor falls with knowledge.

Faith ſtands by itſelf, and upon grounds of its own; nor can be removed from them, and placed on thoſe of knowledge. Their grounds are ſo far from being the ſame, or having any thing common, that when it is brought to certainty, faith is deſtroyed; it is knowledge then, and faith no longer.

With what aſſurance ſoever of believing I aſſent to any article of faith, ſo that I ſtedfaſtly venture my all upon it, it is ſtill but believing. Bring it to certainty, and it ceaſes to be faith. I believe that Jeſus Chriſt was crucified, dead, and buried, roſe again the third day from the dead, and aſcended into heaven: let now ſuch methods of knowledge or certainty be ſtarted, as leave men's minds more doubtful than before; let the grounds of knowledge be reſolved into what any one pleaſes, it touches not my faith; the foundation of that ſtands as ſure as before, and cannot be at all ſhaken by it; and one may as well ſay, that any thing that weakens the ſight, or caſts a miſt before the eyes, endangers the hearing; as that any thing which alters the nature of knowledge (if that could be done) ſhould be of dangerous conſequence to an article of faith.

ſeveral places of this eſſay. I ſhould not proceed to examine the ſeveral degrees of our knowledge, but that it is neceſſary firſt to conſider the different acceptations of the word knowledge.

Knowledge actual or habitual.

§. 8. There are ſeveral ways wherein the mind is poſſeſſed of truth, each of which is called knowledge.

1. There is actual knowledge, which is the preſent view the mind has of the agreement or diſagreement of any of its ideas, or of the relation they have one to another.

2. A man is ſaid to know any propoſition, which having been once laid before his thoughts, he evidently perceived the agreement or diſagreement of the ideas whereof it conſiſts; and ſo lodged it in his memory, that whenever that propoſition comes again to be reflected on, he, without doubt or heſitation, embraces the right ſide, aſſents to, and is certain of the truth of it. This, I think, one may call habitual knowledge: and thus a man may be ſaid to know all thoſe truths which are lodged in his memory, by a foregoing clear and full perception, whereof the mind is aſſured paſt doubt, as often as it has occaſion to reflect on them. For our finite underſtandings being able to think clearly and diſtinctly but on one thing at once, if men had no knowledge of any more than what they actually thought on, they would all be very ignorant; and he that knew moſt, would know but one truth, that being all he was able to think on at one time.

Whether then I am or am not miſtaken, in the placing certainty in the perception of the agreement or diſagreement of ideas; whether this account of knowledge be true or falſe, enlarges or ſtraitens the bounds of it more than it ſhould; faith ſtill ſtands upon its own baſis, which is not at all altered by it; and every article of that has juſt the ſame unmoved foundation, and the very ſame credibility, that it had before. So that, my lord, whatever I have ſaid about certainty, and how much ſoever I may be out in it, if I am miſtaken, your lordſhip has no reaſon to apprehend any danger to any article of faith from thence; every one of them ſtands upon the ſame bottom it did before, out of the reach of what belongs to knowledge and certainty. And thus much of my way of certainty by ideas; which, I hope, will ſatisfy your lordſhip how far it is from being dangerous to any article of the chriſtian faith whatſoever.

§. 9. Of habitual knowledge, there are alſo, vulgarly ſpeaking, two degrees: Habitual knowledge twofold.

Firſt, the one is of ſuch truths laid up in the memory, as whenever they occur to the mind, it actually perceives the relation is between thoſe ideas. And this is in all thoſe truths, whereof we have an intuitive knowledge; where the ideas themſelves, by an immediate view, diſcover their agreement or diſagreement one with another.

Secondly, the other is of ſuch truths, whereof the mind having been convinced, it retains the memory of the conviction, without the proofs. Thus a man that remembers certainly that he once perceived the demonſtration, that the three angles of a triangle are equal to two right ones, is certain that he knows it, becauſe he cannot doubt the truth of it. In his adherence to a truth, where the demonſtration by which it was at firſt known is forgot, though a man may be thought rather to believe his memory than really to know, and this way of entertaining a truth ſeemed formerly to me like ſomething between opinion and knowledge; a ſort of aſſurance which exceeds bare belief, for that relies on the teſtimony of another: yet upon a due examination I find it comes not ſhort of perfect certainty, and is in effect true knowledge. That which is apt to miſlead our firſt thoughts into a miſtake in this matter, is, that the agreement or diſagreement of the ideas in this caſe is not perceived, as it was at firſt, by an actual view of all the intermediate ideas, whereby the agreement or diſagreement of thoſe in the propoſition was at firſt perceived; but by other intermediate ideas, that ſhow the agreement or diſagreement of the ideas contained in the propoſition whoſe certainty we remember. For example, in this propoſition, that the three angles of a triangle are equal to two right ones, one who has ſeen and clearly perceived the demonſtration of this truth, knows it to be true, when that demonſtration is gone out of his mind; ſo that at preſent it is not actually in view, and poſſibly cannot be recollected: but he knows it in a different way from what he did before. The agreement of the two ideas joined in that propoſition is perceived,

ceived, but it is by the intervention of other ideas than thoſe which at firſt produced that perception. He remembers, i. e. he knows (for remembrance is but the reviving of ſome paſt knowledge) that he was once certain of the truth of this propoſition, that the three angles of a triangle are equal to two right ones. The immutability of the ſame relations between the ſame immutable things, is now the idea that ſhows him, that if the three angles of a triangle were once equal to two right ones, they will always be equal to two right ones. And hence he comes to be certain, that what was once true in the caſe, is always true; what ideas once agreed, will always agree; and conſequently what he once knew to be true, he will always know to be true, as long as he can remember that he once knew it. Upon this ground it is, that particular demonſtrations in mathematicks afford general knowledge. If then the perception that the ſame ideas will eternally have the ſame habitudes and relations, be not a ſufficient ground of knowledge, there could be no knowledge of general propoſitions in mathematicks; for no mathematical demonſtration would be any other than particular: and when a man had demonſtrated any propoſition concerning one triangle or circle, his knowledge would not reach beyond that particular diagram. If he would extend it further, he muſt renew his demonſtration in another inſtance, before he could know it to be true in another like triangle, and ſo on: by which means one could never come to the knowledge of any general propoſitions. Nobody, I think, can deny that Mr. Newton certainly knows any propoſition, that he now at any time reads in his book, to be true; though he has not in actual view that admirable chain of intermediate ideas, whereby he at firſt diſcovered it to be true. Such a memory as that, able to retain ſuch a train of particulars, may be well thought beyond the reach of human faculties; when the very diſcovery, perception, and laying together that wonderful connexion of ideas, is found to ſurpaſs moſt readers comprehenſion. But yet it is evident, the author himſelf knows the propoſition to be *true*, remembering he once ſaw the connexion of thoſe

ideas,

ideas, as certainly as he knows ſuch a man wounded another, remembering that he ſaw him run him through. But becauſe the memory is not always ſo clear as actual perception, and does in all men more or leſs decay in length of time, this amongſt other differences is one, which ſhows that demonſtrative knowledge is much more imperfect than intuitive, as we ſhall ſee in the following chapter.

CHAP. II.

Of the Degrees of our Knowledge.

§. 1. ALL our knowledge conſiſting, as I have ſaid, in the view the mind has of its own ideas, which is the utmoſt light and greateſt certainty we, with our faculties, and in our way of knowledge, are capable of; it may not be amiſs to conſider a little the degrees of its evidence. The different clearneſs of our knowledge ſeems to me to lie in the different way of perception the mind has of the agreement or diſagreement of any of its ideas. For if we will reflect on our own ways of thinking, we ſhall find that ſometimes the mind perceives the agreement or diſagreement of two ideas immediately by themſelves, without the intervention of any other: and this, I think, we may call intuitive knowledge. For in this the mind is at no pains of proving or examining, but perceives the truth, as the eye doth light, only by being directed towards it. Thus the mind perceives, that white is not black, that a circle is not a triangle, that three are more than two, and equal to one and two. Such kind of truths the mind perceives at the firſt ſight of the ideas together, by bare intuition, without the intervention of any other idea; and this kind of knowledge is the cleareſt and moſt certain, that human frailty is capable of. This part of knowledge is irreſiſtible, and like bright ſun-ſhine forces itſelf immediately to be perceived, as ſoon as ever the mind turns its view that way, and

Intuitive.

and leaves no room for heſitation, doubt, or examination, but the mind is preſently filled with the clear light of it. It is on this intuition that depends all the certainty and evidence of all our knowledge; which certainty every one finds to be ſo great, that he cannot imagine, and therefore not require a greater: for a man cannot conceive himſelf capable of a greater certainty, than to know that any idea in his mind is ſuch as he perceives it to be; and that two ideas, wherein he perceives a difference, are different and not preciſely the ſame. He that demands a greater certainty than this, demands he knows not what, and ſhows only that he has a mind to be a ſceptick, without being able to be ſo. Certainty depends ſo wholly on this intuition, that in the next degree of knowledge, which I call demonſtrative, this intuition is neceſſary in all the connexions of the intermediate ideas, without which we cannot attain knowledge and certainty.

Demonſtrative.

§. 2. The next degree of knowledge is, where the mind perceives the agreement or diſagreement of any ideas, but not immediately. Though wherever the mind perceives the agreement or diſagreement of any of its ideas, there be certain knowledge; yet it does not always happen, that the mind ſees that agreement or diſagreement which there is between them, even where it is diſcoverable: and in that caſe remains in ignorance, and at moſt gets no farther than a probable conjecture. The reaſon why the mind cannot always perceive preſently the agreement or diſagreement of two ideas, is, becauſe thoſe ideas, concerning whoſe agreement or diſagreement the inquiry is made, cannot by the mind be ſo put together as to ſhow it. In this caſe then, when the mind cannot ſo bring its ideas together, as by their immediate compariſon, and as it were juxta-poſition or application one to another, to perceive their agreement, or diſagreement, it is fain, by the intervention of other ideas (one or more, as it happens) to diſcover the agreement or diſagreement which it ſearches; and this is that *which* we call reaſoning. Thus the mind being willing *to know the* agreement or diſagreement in bigneſs, be-

tween

tween the three angles of a triangle and two right ones, cannot by an immediate view and comparing them do it: becauſe the three angles of a triangle cannot be brought at once, and be compared with any one or two angles; and ſo of this the mind has no immediate, no intuitive knowledge. In this caſe the mind is fain to find out ſome other angles, to which the three angles of a triangle have an equality; and, finding thoſe equal to two right ones, comes to know their equality to two right ones.

Depends on proofs.

§. 3. Thoſe intervening ideas which ſerve to ſhow the agreement of any two others, are called proofs; and where the agreement and diſagreement is by this means plainly and clearly perceived, it is called demonſtration, it being ſhown to the underſtanding, and the mind made to ſee that it is ſo. A quickneſs in the mind to find out theſe intermediate ideas (that ſhall diſcover the agreement or diſagreement of any other) and to apply them right, is, I ſuppoſe, that which is called ſagacity.

But not ſo eaſy.

§. 4. This knowledge by intervening proofs, though it be certain, yet the evidence of it is not altogether ſo clear and bright, nor the aſſent ſo ready, as in intuitive knowledge. For though, in demonſtration, the mind does at laſt perceive the agreement or diſagreement of the ideas it conſiders; yet it is not without pains and attention: there muſt be more than one tranſient view to find it. A ſteady application and purſuit are required to this diſcovery: and there muſt be a progreſſion by ſteps and degrees, before the mind can in this way arrive at certainty, and come to perceive the agreement or repugnancy between two ideas that need proofs and the uſe of reaſon to ſhow it.

Not without precedent doubt.

§. 5. Another difference between intuitive and demonſtrative knowledge, is, that though in the latter all doubt be removed, when by the intervention of the intermediate ideas the agreement or diſagreement is perceived; yet before the demonſtration there was a doubt, which in intuitive knowledge cannot happen to the mind, that has its faculty

faculty of perception left to a degree capable of diſtinct ideas, no more than it can be a doubt to the eye (that can diſtinctly ſee white and black) whether this ink and this paper be all of a colour. If there be ſight in the eyes, it will at firſt glimpſe, without heſitation, perceive the words printed on this paper different from the colour of the paper: and ſo if the mind have the faculty of diſtinct perceptions, it will perceive the agreement or diſagreement of thoſe ideas that produce intuitive knowledge. If the eyes have loſt the faculty of ſeeing, or the mind of perceiving, we in vain inquire after the quickneſs of ſight in one, or clearneſs of perception in the other.

Not ſo clear.

§. 6. It is true, the perception produced by demonſtration is alſo very clear, yet it is often with a great abatement of that evident luſtre and full aſſurance, that always accompany that which I call intuitive; like a face reflected by ſeveral mirrors one to another, where as long as it retains the ſimilitude and agreement with the object, it produces a knowledge; but it is ſtill in every ſucceſſive reflection with a leſſening of that perfect clearneſs and diſtinctneſs, which is in the firſt, till at laſt, after many removes, it has a great mixture of dimneſs, and is not at firſt ſight ſo knowable, eſpecially to weak eyes. Thus it is with knowledge made out by a long train of proof.

Each ſtep muſt have intuitive evidence.

§. 7. Now, in every ſtep reaſon makes in demonſtrative knowledge, there is an intuitive knowledge of that agreement or diſagreement it ſeeks with the next intermediate idea, which it uſes as a proof: for if it were not ſo, that yet would need a proof; ſince without the perception of ſuch agreement or diſagreement, there is no knowledge produced. If it be perceived by itſelf, it is intuitive knowledge: if it cannot be perceived by itſelf, there is need of ſome intervening idea, as a common meaſure to ſhow their agreement or diſagreement. By which it is plain, that every ſtep in reaſoning that produces knowledge, has intuitive certainty; which when the mind perceives, there is no more required, but to remember it to make the agreement or diſagreement of

the ideas, concerning which we inquire, viſible and certain. So that to make any thing a demonſtration, it is neceſſary to perceive the immediate agreement of the intervening ideas, whereby the agreement or diſagreement of the two ideas under examination (whereof the one is always the firſt, and the other the laſt in the account) is found. This intuitive perception of the agreement or diſagreement of the intermediate ideas, in each ſtep and progreſſion of the demonſtration, muſt alſo be carried exactly in the mind, and a man muſt be ſure that no part is left out: which becauſe in long deductions, and the uſe of many proofs, the memory does not always ſo readily and exactly retain; therefore it comes to paſs, that this is more imperfect than intuitive knowledge, and men embrace often falſhood for demonſtrations.

Hence the miſtake "ex præcognitis & præconceſſis."

§. 8. The neceſſity of this intuitive knowledge, in each ſtep of ſcientifical or demonſtrative reaſoning, gave occaſion, I imagine, to that miſtaken axiom, that all reaſoning was "ex præcognitis & præconceſſis;" which how far it is miſtaken, I ſhall have occaſion to ſhow more at large, when I come to conſider propoſitions, and particularly thoſe propoſitions which are called maxims; and to ſhow that it is by a miſtake, that they are ſuppoſed to be the foundations of all our knowledge and reaſonings.

Demonſtration not limited to quantity.

§. 9. It has been generally taken for granted, that mathematicks alone are capable of demonſtrative certainty: but to have ſuch an agreement or diſagreement, as may intuitively be perceived, being, as I imagine, not the privilege of the ideas of number, extenſion, and figure alone, it may poſſibly be the want of due method and application in us, and not of ſufficient evidence in things, that demonſtration has been thought to have ſo little to do in other parts of knowledge, and been ſcarce ſo much as aimed at by any but mathematicians. For whatever ideas we have, wherein the mind can perceive the immediate agreement or diſagreement that is between them, there the mind is capable of intuitive knowledge; and where it can perceive the agreement or diſagree-

ment.

ment of any two ideas, by an intuitive perception of the agreement or diſagreement they have with any intermediate ideas, there the mind is capable of demonſtration, which is not limited to ideas of extenſion, figure, number, and their modes.

Why it has been ſo thought.

§. 10. The reaſon why it has been generally ſought for, and ſuppoſed to be only in thoſe, I imagine has been not only the general uſefulneſs of thoſe ſciences; but becauſe, in comparing their equality or exceſs, the modes of numbers have every the leaſt difference very clear and perceivable; and though in extenſion, every the leaſt exceſs is not ſo perceptible, yet the mind has found out ways to examine and diſcover demonſtratively the juſt equality of two angles, or extenſions, or figures: and both theſe, i. e. numbers and figures, can be ſet down by viſible and laſting marks, wherein the ideas under conſideration are perfectly determined; which for the moſt part they are not, where they are marked only by names and words.

§. 11. But in other ſimple ideas, whoſe modes and differences are made and counted by degrees, and not quantity, we have not ſo nice and accurate a diſtinction of their differences, as to perceive and find ways to meaſure their juſt equality, or the leaſt differences. For thoſe other ſimple ideas, being appearances of ſenſations, produced in us by the ſize, figure, number, and motion of minute corpuſcles ſingly inſenſible; their different degrees alſo depend upon the variation of ſome, or of all thoſe cauſes: which ſince it cannot be obſerved by us in particles of matter, whereof each is too ſubtile to be perceived, it is impoſſible for us to have any exact meaſures of the different degrees of theſe ſimple ideas. For ſuppoſing the ſenſation or idea we name whiteneſs be produced in us by a certain number of globules, which, having a verticity about their own centres, ſtrike upon the retina of the eye, with a certain degree of rotation, as well as progreſſive ſwiftneſs; it will hence eaſily follow, that the more the ſuperficial parts of any body are ſo ordered, as to reflect the greater number of globules of light, and to give them the proper rotation,

which

which is fit to produce this ſenſation of white in us, the more white will that body appear, that from an equal ſpace ſends to the retina the greater number of ſuch corpuſcles, with that peculiar ſort of motion. I do not ſay, that the nature of light conſiſts in very ſmall round globules, nor of whiteneſs in ſuch a texture of parts, as gives a certain rotation to theſe globules, when it reflects them; for I am not now treating phyſically of light or colours. But this, I think, I may ſay, that I cannot (and I would be glad any one would make intelligible that he did) conceive how bodies without us can any ways affect our ſenſes, but by the immediate contact of the ſenſible bodies themſelves, as in taſting and feeling, or the impulſe of ſome inſenſible particles coming from them, as in ſeeing, hearing, and ſmelling; by the different impulſe of which parts, cauſed by their different ſize, figure, and motion, the variety of ſenſations is produced in us.

§. 12. Whether then they be globules, or no; or whether they have a verticity about their own centres that produces the idea of whiteneſs in us; this is certain, that the more particles of light are reflected from a body, fitted to give them that peculiar motion, which produces the ſenſation of whiteneſs in us; and poſſibly too, the quicker that peculiar motion is; the whiter does the body appear, from which the greater number are reflected, as is evident in the ſame piece of paper put in the ſun-beams, in the ſhade, and in a dark hole; in each of which it will produce in us the idea of whiteneſs in far different degrees.

§. 13. Not knowing therefore what number of particles, nor what motion of them is fit to produce any preciſe degree of whiteneſs, we cannot demonſtrate the certain equality of any two degrees of whiteneſs, becauſe we have no certain ſtandard to meaſure them by, nor means to diſtinguiſh every the leaſt real difference, the only help we have being from our ſenſes, which in this point fail us. But where the difference is ſo great, as to produce in the mind clearly diſtinct ideas, whoſe differences can be perfectly retained, there theſe ideas or colours, as we ſee in different kinds, as blue and red,

are

are as capable of demonſtration, as ideas of number and extenſion. What I have here ſaid of whiteneſs and colours, I think, holds true in all ſecondary qualities, and their modes.

Senſitive knowledge of particular exiſtence.

§. 14. Theſe two, viz. intuition and demonſtration, are the degrees of our knowledge; whatever comes ſhort of one of theſe, with what aſſurance ſoever embraced, is but faith, or opinion, but not knowledge, at leaſt in all general truths. There is, indeed, another perception of the mind, employed about the particular exiſtence of finite beings without us; which going beyond bare probability, and yet not reaching perfectly to either of the foregoing degrees of certainty, paſſes under the name of knowledge. There can be nothing more certain, than that the idea we receive from an external object is in our minds; this is intuitive knowledge. But whether there be any thing more than barely that idea in our minds, whether we can thence certainly infer the exiſtence of any thing without us, which correſponds to that idea, is that, whereof ſome men think there may be a queſtion made; becauſe men may have ſuch ideas in their minds, when no ſuch thing exiſts, no ſuch object affects their ſenſes. But yet here, I think, we are provided with an evidence, that puts us paſt doubting: for I aſk any one, whether he be not invincibly conſcious to himſelf of a different perception, when he looks on the ſun by day, and thinks on it by night; when he actually taſtes wormwood, or ſmells a roſe, or only thinks on that ſavour or odour? We as plainly find the difference there is between an idea revived in our minds by our own memory, and actually coming into our minds by our ſenſes, as we do between any two diſtinct ideas. If any one ſay, a dream may do the ſame thing, and all theſe ideas may be produced in us without any external objects; he may pleaſe to dream that I make him this anſwer; 1. That it is no great matter, whether I remove this ſcruple, or no: where all is but dream, reaſoning and arguments are of no uſe, truth and knowledge nothing. 2. That I believe he will allow a very manifeſt difference between dreaming of being in the fire, and

being

being actually in it. But yet if he be reſolved to appear ſo ſceptical, as to maintain, that what I call being actually in the fire is nothing but a dream; and we cannot thereby certainly know, that any ſuch thing as fire actually exiſts without us: I anſwer, that we certainly finding that pleaſure or pain follows upon the application of certain objects to us, whoſe exiſtence we perceive, or dream that we perceive, by our ſenſes; this certainty is as great as our happineſs or miſery, beyond which we have no concernment to know or to be. So that, I think, we may add to the two former ſorts of knowledge this alſo of the exiſtence of particular external objects, by that perception and conſciouſneſs we have of the actual entrance of ideas from them, and allow theſe three degrees of knowledge, viz. intuitive, demonſtrative, and ſenſitive: in each of which there are different degrees and ways of evidence and certainty.

Knowledge not always clear, where the ideas are ſo.

§. 15. But ſince our knowledge is founded on, and employed about, our ideas only, will it not follow from thence, that it is conformable to our ideas; and that where our ideas are clear and diſtinct, or obſcure and confuſed, our knowledge will be ſo too? To which I anſwer, no: for our knowledge conſiſting in the perception of the agreement or diſagreement of any two ideas, its clearneſs or obſcurity conſiſts in the clearneſs or obſcurity of that perception, and not in the clearneſs or obſcurity of the ideas themſelves; v. g. a man that has as clear ideas of the angles of a triangle, and of equality to two right ones, as any mathematician in the world, may yet have but a very obſcure perception of their agreement, and ſo have but a very obſcure knowledge of it. But ideas, which by reaſon of their obſcurity or otherwiſe, are confuſed, cannot produce any clear or diſtinct knowledge; becauſe as far as any ideas are confuſed, ſo far the mind cannot perceive clearly, whether they agree or diſagree. Or to expreſs the ſame thing in a way leſs apt to be miſunderſtood; he that hath not determined ideas to the words he uſes, cannot make propoſitions of them, of whoſe truth he can be certain.

CHAP.

CHAP. III.

Of the Extent of Human Knowledge.

§. 1. KNOWLEDGE, as has been ſaid, lying in the perception of the agreement or diſagreement of any of our ideas, it follows from hence, that,

1. No farther than we have ideas.

First, we can have knowledge no farther than we have ideas.

2. No farther than we can perceive their agreement or diſagreement.

§. 2. Secondly, that we have no knowledge farther than we can have perception of their agreement or diſagreement. Which perception being, 1. Either by intuition, or the immediate comparing any two ideas; or, 2. By reaſon, examining the agreement or diſagreement of two ideas, by the intervention of ſome others; or, 3. By ſenſation, perceiving the exiſtence of particular things: hence it alſo follows,

3. Intuitive knowledge extends itſelf not to all the relations of all our ideas.

§. 3. Thirdly, that we cannot have an intuitive knowledge, that ſhall extend itſelf to all our ideas, and all that we would know about them; becauſe we cannot examine and perceive all the relations they have one to another by juxta-poſition, or an immediate compariſon one with another. Thus having the ideas of an obtuſe and an acute angled triangle, both drawn from equal baſes, and between parallels, I can, by intuitive knowledge, perceive the one not to be the other, but cannot that way know whether they be equal or no; becauſe their agreement or diſagreement in equality can never be perceived by an immediate comparing them: the difference of figure makes their parts incapable of an exact immediate application; and therefore there is need of ſome intervening qualities to meaſure them by, which is demonſtration, or rational knowledge.

4. Nor demonſtrative knowledge.

§. 4. Fourthly, it follows alſo, from what is above obſerved, that our rational knowledge cannot reach to the whole extent of our ideas: becauſe between two different

ideas

ideas we would examine, we cannot always find ſuch mediums, as we can connect one to another with an intuitive knowledge, in all the parts of the deduction; and wherever that fails, we come ſhort of knowledge and demonſtration.

5. Senſitive knowledge narrower than either.

§. 5. Fifthly, ſenſitive knowledge reaching no farther than the exiſtence of things actually preſent to our ſenſes, is yet much narrower than either of the former.

6. Our knowledge therefore narrower than our ideas.

§. 6. From all which it is evident, that the extent of our knowledge comes not only ſhort of the reality of things, but even of the extent of our own ideas. Though our knowledge be limited to our ideas, and cannot exceed them either in extent or perfection; and though theſe be very narrow bounds, in reſpect of the extent of all being, and far ſhort of what we may juſtly imagine to be in ſome even created underſtandings, not tied down to the dull and narrow information which is to be received from ſome few, and not very acute ways of perception, ſuch as are our ſenſes; yet it would be well with us if our knowledge were but as large as our ideas, and there were not many doubts and inquiries concerning the ideas we have, whereof we are not, nor I believe ever ſhall be in this world reſolved. Nevertheleſs I do not queſtion but that human knowledge, under the preſent circumſtances of our beings and conſtitutions, may be carried much farther than it has hitherto been, if men would ſincerely, and with freedom of mind, employ all that induſtry and labour of thought, in improving the means of diſcovering truth, which they do for the colouring or ſupport of falſhood, to maintain a ſyſtem, intereſt, or party, they are once engaged in. But yet after all, I think I may, without injury to human perfection, be confident, that our knowledge would never reach to all we might deſire to know concerning thoſe ideas we have: nor be able to ſurmount all the difficulties, and reſolve all the queſtions that might ariſe concerning any of them. We have the ideas of a ſquare, a circle, and equality; and yet, perhaps, ſhall never be able to find a circle equal to a ſquare, and certainly

know

know that it is ſo. We have the ideas of matter and thinking*, but poſſibly ſhall never be able to know, whether any mere material being thinks, or no; it being im-

* Againſt that aſſertion of Mr. Locke, that poſſibly we ſhall never be able to know whether any mere material being thinks or no, &c. the biſhop of Worceſter argues thus: if this be true, then, for all that we can know by our ideas of matter and thinking, matter may have a power of thinking: and, if this hold, then it is impoſſible to prove a ſpiritual ſubſtance in us from the idea of thinking: for how can we be aſſured by our ideas, that God hath not given ſuch a power of thinking to matter ſo diſpoſed as our bodies are? eſpecially ſince it is ſaid †, "That, in reſpect "of our notions, it is not much more remote from our comprehenſion to "conceive that God can, if he pleaſes, ſuperadd to our idea of matter a "faculty of thinking, than that he ſhould ſuperadd to it another ſub-"ſtance, with a faculty of thinking." Whoever aſſerts this can never prove a ſpiritual ſubſtance in us from a faculty of thinking, becauſe he cannot know, from the idea of matter and thinking, that matter ſo diſpoſed cannot think: and he cannot be certain, that God hath not framed the matter of our bodies ſo as to be capable of it.

To which Mr. Locke ‡ anſwers thus: here your lordſhip argues, that upon my principles it cannot be proved that there is a ſpiritual ſubſtance in us. To which, give me leave, with ſubmiſſion, to ſay, that I think it may be proved from my principles, and I think I have done it; and the proof in my book ſtands thus: Firſt, we experiment in ourſelves thinking. The idea of this action or mode of thinking is inconſiſtent with the idea of ſelf-ſubſiſtence, and therefore has a neceſſary connexion with a ſupport or ſubject of inheſion: the idea of that ſupport is what we call ſubſtance; and ſo from thinking experimented in us, we have a proof of a thinking ſubſtance in us, which in my ſenſe is a ſpirit. Againſt this your lordſhip will argue, that, by what I have ſaid of the poſſibility that God may, if he pleaſes, ſuperadd to matter a faculty of thinking, it can never be proved that there is a ſpiritual ſubſtance in us, becauſe, upon that ſuppoſition, it is poſſible it may be a material ſubſtance that thinks in us. I grant it; but add, that the general idea of ſubſtance being the ſame every where, the modification of thinking, or the power of thinking, joined to it, makes it a ſpirit, without conſidering what other modifications it has, as, whether it has the modification of ſolidity, or no. As, on the other ſide, ſubſtance, that has the modification of ſolidity, is matter, whether it has the modification of thinking, or no. And therefore, if your lordſhip means by a ſpiritual, an immaterial ſubſtance, I grant I have not proved, nor upon my principles can it be proved, (your lordſhip meaning, as I think you do, demonſtratively proved) that there is an immaterial ſubſtance in us that thinks. Though I preſume, from what I have ſaid about this ſuppoſition of a ſyſtem of matter, thinking ‖ (which there demonſtrates that God is immaterial) will prove it in the higheſt degree

† Eſſay of Human Underſtanding. B. 4. C. 3. §. 6.
‡ In his firſt letter to the biſhop of Worceſter.
‖ B. 4. C. 10. §. 16.

probable,

probable, that the thinking ſubſtance in us is immaterial. But your lordſhip thinks not probability enough, and by charging the want of demonſtration upon my principle, that the thinking thing in us is immaterial, your lordſhip ſeems to conclude it demonſtrable from principles of philoſophy. That demonſtration I ſhould with joy receive from your lordſhip, or any one. For though all the great ends of morality and religion are well enough ſecured without it, as I have ſhown *, yet it would be a great advance of our knowledge in nature and philoſophy.

To what I have ſaid in my book, to ſhow that all the great ends of religion and morality are ſecured barely by the immortality of the ſoul, without a neceſſary ſuppoſition that the ſoul is immaterial, I crave leave to add, that immortality may and ſhall be annexed to that, which in its own nature is neither immaterial nor immortal, as the apoſtle expreſly declares in theſe words, † For this corruptible muſt put on incorruption, and this mortal muſt put on immortality.

Perhaps my uſing the word ſpirit for a thinking ſubſtance, without excluding materiality out of it, will be thought too great a liberty, and ſuch as deſerves cenſure, becauſe I leave immateriality out of the idea I make it a ſign of. I readily own, that words ſhould be ſparingly ventured on in a ſenſe wholly new; and nothing but abſolute neceſſity can excuſe the boldneſs of uſing any term in a ſenſe whereof we can produce no example. But, in the preſent caſe, I think I have great authorities to juſtify me. The ſoul is agreed, on all hands, to be that in us which thinks. And he that will look into the firſt book of Cicero's Tuſculan queſtions, and into the ſixth book of Virgil's Æneid, will find, that theſe two great men, who of all the Romans beſt underſtood philoſophy, thought, or at leaſt did not deny the ſoul to be a ſubtile matter, which might come under the name of aura, or ignis, or æther, and this ſoul they both of them called ſpiritus: in the notion of which, it is plain, they included only thought and active motion, without the total excluſion of matter. Whether they thought right in this, I do not ſay; that is not the queſtion; but whether they ſpoke properly, when they called an active, thinking, ſubtile ſubſtance, out of which they excluded only groſs and palpable matter, ſpiritus, ſpirit. I think that nobody will deny, that if any among the Romans can be allowed to ſpeak properly, Tully and Virgil are the two who may moſt ſecurely be depended on for it: and one of them ſpeaking of the ſoul, ſays, Dum ſpiritus hos reget artus; and the other, Vita continetur corpore & ſpiritu. Where it is plain, by corpus, he means (as generally every where) only groſs matter that may be felt and handled, as appears by theſe words, Si cor, aut ſanguis, aut cerebrum eſt animus; certe, quoniam eſt corpus, interibit cum reliquo corpore; ſi anima eſt, fortè diſſipabitur; ſi ignis, extinguetur, Tuſc. Quæſt. l. 1. c. 11. Here Cicero oppoſes corpus to ignis and anima, i. e. aura, or breath. And the foundation of that his diſtinction of the ſoul, from that which he calls corpus or body, he gives a little lower in theſe words, Tanta ejus tenuitas ut fugiat aciem, ib. c. 22. Nor was it the heathen world alone that had this notion of ſpirit; the moſt enlightened of all the ancient people of God, Solomon himſelf, ſpeaks after the ſame manner, ‡ that which befalleth the ſons of men, befalleth beaſts, even one thing befalleth them; as the one dieth, ſo dieth the other, yea, they have all one ſpirit. So I

* B. 4. C. 3. §. 6. † 1 Cor. xv. 53. ‡ Eccl. iii. 19.

tranſlate the Hebrew word רוח here, for ſo I find it tranſlated the very next verſe but one*; who knoweth the ſpirit of man that goeth upward, and the ſpirit of the beaſt that goeth down to the earth? In which places it is plain, that Solomon applies the word רוח, and our tranſlators of him the word ſpirit, to a ſubſtance, out of which materiality was not wholly excluded, unleſs the ſpirit of a beaſt that goeth downwards to the earth be immaterial. Nor did the way of ſpeaking in our Saviour's time vary from this: St. Luke tells us †, that when our Saviour, after his reſurrection, ſtood in the midſt of them, they were affrighted, and ſuppoſed that they had ſeen πνεῦμα, the Greek word which always anſwers ſpirit in Engliſh; and ſo the tranſlators of the Bible render it here, they ſuppoſed that they had ſeen a ſpirit. But our Saviour ſays to them, behold my hands and my feet, that it is I myſelf; handle me and ſee; for a ſpirit hath not fleſh and bones, as you ſee me have. Which words of our Saviour put the ſame diſtinction between body and ſpirit, that Cicero did in the place above-cited, viz. That the one was a groſs compages that could be felt and handled; and the other ſuch as Virgil deſcribes the ghoſt or ſoul of Anchiſes.

Ter conatus ibi collo dare brachia circum,
Ter fruſtra comprenſa manus effugit imago,
Par levibus ventis volucrique ſimillima ſumno ‡.

I would not be thought hereby to ſay, that ſpirit never does ſignify a purely immaterial ſubſtance. In that ſenſe the ſcripture, I take it, ſpeaks, when it ſays God is a ſpirit; and in that ſenſe I have uſed it; and in that ſenſe I have proved from my principles that there is a ſpiritual ſubſtance; and am certain that there is a ſpiritual immaterial ſubſtance: which is, I humbly conceive, a direct anſwer to your lordſhip's queſtion in the beginning of this argument, viz. How we come to be certain that there are ſpiritual ſubſtances, ſuppoſing this principle to be true, that the ſimple ideas by ſenſation and reflection are the ſole matter and foundation of all our reaſoning? But this hinders not, but that if God, that infinite, omnipotent, and perfectly immaterial Spirit, ſhould pleaſe to give to a ſyſtem of very ſubtile matter, ſenſe and motion, it might with propriety of ſpeech be called ſpirit, though materiality were not excluded out of its complex idea. Your lordſhip proceeds, It is ſaid indeed elſewhere ‖, that it is repugnant to the idea of ſenſeleſs matter, that it ſhould put into itſelf ſenſe, perception, and knowledge. But this doth not reach the preſent caſe; which is not what matter can do of itſelf, but what matter prepared by an omnipotent hand can do. And what certainty can we have that he hath not done it? We can have none from the ideas, for thoſe are given up in this caſe, and conſequently we can have no certainty, upon theſe principles, whether we have any ſpiritual ſubſtance within us or not.

Your lordſhip in this paragraph proves, that, from what I ſay, we can have no certainty whether we have any ſpiritual ſubſtance in us or not. If by ſpiritual ſubſtance your lordſhip means an immaterial ſubſtance in us, as you ſpeak, I grant what your lordſhip ſays is true, that it cannot upon theſe principles be demonſtrated. But I muſt crave leave to ſay at the ſame time, that upon theſe principles it can be proved, to the higheſt degree of probability. If by ſpiritual ſubſtance your lordſhip means a thinking ſubſtance, I muſt diſſent from your lordſhip, and ſay,

* *Eccl. iii. 21.* † Ch. xxiv. 37. ‡ Lib. VI. ‖ B. 4. C. 10. §. 5.

that we can have a certainty, upon my principles, that there is a ſpiritual ſubſtance in us. In ſhort, my lord, upon my principles, i. e. from the idea of thinking, we can have a certainty that there is a thinking ſubſtance in us; from hence we have a certainty that there is an eternal thinking ſubſtance. This thinking ſubſtance, which has been from eternity, I have proved to be immaterial. This eternal, immaterial, thinking ſubſtance, has put into us a thinking ſubſtance, which, whether it be a material or immaterial ſubſtance, cannot be infallibly demonſtrated from our ideas; though from them it may be proved, that it is to the higheſt degree probable that it is immaterial.

Again, the biſhop of Worceſter undertakes to prove from Mr. Locke's principles, that we may be certain, "That the firſt eternal thinking Being, or omnipotent Spirit cannot, if he would, give to certain ſyſtems of created ſenſible matter, put together as he ſees fit, ſome degrees of ſenſe, perception, and thought."

To which Mr. Locke has made the following anſwer in his third letter.

Your firſt argument I take to be this; that according to me, the knowledge we have being by our ideas, and our idea of matter in general being a ſolid ſubſtance, and our idea of body a ſolid extended figured ſubſtance; if I admit matter to be capable of thinking, I confound the idea of matter with the idea of a ſpirit: to which I anſwer, No, no more than I confound the idea of matter with the idea of an horſe, when I ſay that matter in general is a ſolid extended ſubſtance; and that an horſe is a material animal, or an extended ſolid ſubſtance with ſenſe and ſpontaneous motion.

The idea of matter is an extended ſolid ſubſtance; wherever there is ſuch a ſubſtance, there is matter, and the eſſence of matter, whatever other qualities, not contained in that eſſence, it ſhall pleaſe God to ſuperadd to it. For example, God creates an extended ſolid ſubſtance, without the ſuperadding any thing elſe to it, and ſo we may conſider it at reſt: to ſome parts of it he ſuperadds motion, but it has ſtill the eſſence of matter: other parts of it he frames into plants, with all the excellencies of vegetation, life, and beauty, which is to be found in a roſe or peach tree, &c. above the eſſence of matter, in general, but it is ſtill but matter: to other parts he adds ſenſe and ſpontaneous motion, and thoſe other properties that are to be found in an elephant. Hitherto it is not doubted but the power of God may go, and that the properties of a roſe, a peach or an elephant, ſuperadded to matter, change not the properties of matter; but matter is in theſe things matter ſtill. But if one venture to go one ſtep farther and ſay, God may give to matter thought, reaſon, and volition, as well as ſenſe and ſpontaneous motion, there are men ready preſently to limit the power of the omnipotent Creator, and tell us he cannot do it; becauſe it deſtroys the eſſence, or changes the eſſential properties of matter. To make good which aſſertion, they have no more to ſay, but that thought and reaſon are not included in the eſſence of matter. I grant it; but whatever excellency, not contained in its eſſence, be ſuperadded to matter, it does not deſtroy the eſſence of matter, if it leaves it an extended ſolid ſubſtance; wherever that is, there is the eſſence of matter: and if every thing of greater perfection, ſuperadded to ſuch a ſubſtance, deſtroys the eſſence of matter, what will become of the eſſence of matter in a plant or an animal, whoſe properties far exceed thoſe of a mere extended ſolid ſubſtance?

But it is farther urged, that we cannot conceive how matter can think: *I grant it;* but to argue from thence, that God therefore cannot give to

matter a faculty of thinking, is to ſay God's omnipotency is limited to a narrow compaſs, becauſe man's underſtanding is ſo; and brings down God's infinite power to the ſize of our capacities. If God can give no power to any parts of matter, but what men can account for from the eſſence of matter in general; if all ſuch qualities and properties muſt deſtroy the eſſence, or change the eſſential properties of matter, which are to our conceptions above it, and we cannot conceive to be the natural conſequence of that eſſence; it is plain, that the eſſence of matter is deſtroyed, and its eſſential properties changed, in moſt of the ſenſible parts of this our ſyſtem. For it is viſible, that all the planets have revolutions about certain remote centres, which I would have any one explain, or make conceivable by the bare eſſence, or natural powers depending on the eſſence of matter in general, without ſomething added to that eſſence, which we cannot conceive; for the moving of matter in a crooked line, or the attraction of matter by matter, is all that can be ſaid in the caſe; either of which it is above our reach to derive from the eſſence of matter or body in general; though one of theſe two muſt unavoidably be allowed to be ſuperadded in this inſtance to the eſſence of matter in general. The omnipotent Creator adviſed not with us in the making of the world, and his ways are not the leſs excellent, becauſe they are paſt finding out.

In the next place, the vegetable part of the creation is not doubted to be wholly material; and yet he that will look into it, will obſerve excellencies and operations in this part of matter, which he will not find contained in the eſſence of matter in general, nor be able to conceive how they can be produced by it. And will he therefore ſay, that the eſſence of matter is deſtroyed in them, becauſe they have properties and operations not contained in the eſſential properties of matter as matter, nor explicable by the eſſence of matter in general?

Let us advance one ſtep farther, and we ſhall in the animal world meet with yet greater perfections and properties, no ways explicable by the eſſence of matter in general. If the omnipotent Creator had not ſuperadded to the earth, which produced the irrational animals, qualities far ſurpaſſing thoſe of the dull dead earth, out of which they were made, life, ſenſe, and ſpontaneous motion, nobler qualities than were before in it, it had ſtill remained rude ſenſeleſs matter; and if to the individuals of each ſpecies he had not ſuperadded a power of propagation, the ſpecies had periſhed with thoſe individuals: but by theſe eſſences or properties of each ſpecies, ſuperadded to the matter which they were made of, the eſſence or properties of matter in general were not deſtroyed or changed, any more than any thing that was in the individuals before was deſtroyed or changed by the power of generation, ſuperadded to them by the firſt benediction of the Almighty.

In all ſuch caſes, the ſuperinducement of greater perfections and nobler qualities deſtroys nothing of the eſſence or perfections that were there before; unleſs there can be ſhowed a manifeſt repugnancy between them: but all the proof offered for that, is only, that we cannot conceive how matter, without ſuch ſuperadded perfections, can produce ſuch effects; which is, in truth, no more than to ſay, matter in general, or every part of matter, as matter, has them not; but is no reaſon to prove, that God, if he pleaſes, cannot ſuperadd them to ſome parts of matter, unleſs it can be proved to be a contradiction, that God ſhould give to ſome parts of matter qualities and perfections, which matter in general has not; though *we cannot conceive* how matter is inveſted with them, or how it operates

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by virtue of thoſe new endowments; nor is it to be wondered that we cannot, whilſt we limit all its operations to thoſe qualities it had before, and would explain them by the known properties of matter in general, without any ſuch induced perfections. For, if this be a right rule of reaſoning, to deny a thing to be, becauſe we cannot conceive the manner how it comes to be; I ſhall deſire them who uſe it to ſtick to this rule, and ſee what work it will make both in divinity as well as philoſophy; and whether they can advance any thing more in favour of ſcepticiſm.

For to keep within the preſent ſubject of the power of thinking and ſelf-motion, beſtowed by omnipotent power in ſome parts of matter. the objection to this is, I cannot conceive how matter ſhould think. What is the conſequence? Ergo, God cannot give it a power to think. Let this ſtand for a good reaſon, and then proceed in other caſes by the ſame. You cannot conceive how matter can attract matter at any diſtance, much leſs at the diſtance of 1,000,000 miles; ergo, God cannot give it ſuch a power: you cannot conceive how matter ſhould feel, or move itſelf, or affect an immaterial being, or be moved by it; ergo, God cannot give it ſuch powers: which is in effect to deny gravity, and the revolution of the planets about the ſun; to make brutes mere machines, without ſenſe or ſpontaneous motion; and to allow man neither ſenſe nor voluntary motion.

Let us apply this rule one degree farther. You cannot conceive how an extended ſolid ſubſtance ſhould think, therefore God cannot make it think: can you conceive how your own ſoul, or any ſubſtance, thinks? You find indeed that you do think, and ſo do I; but I want to be told how the action of thinking is performed: this, I confeſs, is beyond my conception; and I would be glad any one, who conceives it, would explain it to me. God, I find, has given me this faculty; and ſince I cannot but be convinced of his power in this inſtance, which though I every moment experiment in myſelf, yet I cannot conceive the manner of; what would it be leſs than an inſolent abſurdity, to deny his power in other like caſes, only for this reaſon, becauſe I cannot conceive the manner how?

To explain this matter a little farther: God has created a ſubſtance; let it be, for example, a ſolid extended ſubſtance. Is God bound to give it, beſides being, a power of action? that, I think, nobody will ſay: he therefore may leave it in a ſtate of inactivity, and it will be nevertheleſs a ſubſtance; for action is not neceſſary to the being of any ſubſtance that God does create. God has likewiſe created and made to exiſt, de novo, an immaterial ſubſtance, which will not loſe its being of a ſubſtance, though God ſhould beſtow on it nothing more but this bare being, without giving it any activity at all. Here are now two diſtinct ſubſtances, the one material, the other immaterial, both in a ſtate of perfect inactivity. Now I aſk, what power God can give to one of theſe ſubſtances (ſuppoſing them to retain the ſame diſtinct natures that they had as ſubſtances in their ſtate of inactivity) which he cannot give to the other? In that ſtate, it is plain, neither of them thinks; for thinking being an action, it cannot be denied, that God can put an end to any action of any created ſubſtance, without annihilating of the ſubſtance whereof it is an action; and if it be ſo, he can alſo create or give exiſtence to ſuch a ſubſtance, without giving that ſubſtance any action at all. By the ſame reaſon it is plain, that neither of them can move itſelf: now, I would aſk, why Omnipotency cannot give to either of theſe ſubſtances, which are equally in a ſtate of perfect inactivity, the ſame power that it can give to the other? Let it be, *for example, that* of ſpontaneous or ſelf-motion, which is a power that it

is ſuppoſed God can give to an unſolid ſubſtance, but denied that he can give to ſolid ſubſtance.

If it be aſked, why they limit the omnipotency of God, in reference to the one rather than the other of theſe ſubſtances? all that can be ſaid to it is, that they cannot conceive, how the ſolid ſubſtance ſhould ever be able to move itſelf. And as little, ſay I, are they able to conceive, how a created unſolid ſubſtance ſhould move itſelf. But there may be ſomething in an immaterial ſubſtance, that you do not know. I grant it; and in a material one too: for example, gravitation of matter towards matter, and in the ſeveral proportions obſervable, inevitably ſhows, that there is ſomething in matter that we do not underſtand, unleſs we can conceive ſelf-motion in matter; or an inexplicable and inconceivable attraction in matter, at immenſe, almoſt incomprehenſible diſtances: it muſt therefore be confeſſed, that there is ſomething in ſolid, as well as unſolid ſubſtances, that we do not underſtand. But this we know, that they may each of them have their diſtinct beings, without any activity ſuperadded to them, unleſs you will deny, that God can take from any being its power of acting, which it is probable will be thought too preſumptuous for any one to do; and I ſay, it is as hard to conceive ſelf-motion in a created immaterial, as in a material being, conſider it how you will: and therefore this is no reaſon to deny Omnipotency to be able to give a power of ſelf-motion to a material ſubſtance, if he pleaſes, as well as to an immaterial: ſince neither of them can have it from themſelves, nor can we conceive how it can be in either of them.

The ſame is viſible in the other operation of thinking; both theſe ſubſtances may be made, and exiſt without thought; neither of them has, or can have the power of thinking from itſelf; God may give it to either of them, according to the good pleaſure of his omnipotency; and in which ever of them it is, it is equally beyond our capacity to conceive, how either of theſe ſubſtances thinks. But for that reaſon, to deny that God, who had power enough to give them both a being out of nothing, can by the ſame omnipotency, give them what other powers and perfections he pleaſes, has no better foundation than to deny his power of creation, becauſe we cannot conceive how it is performed: and there, at laſt, this way of reaſoning muſt terminate.

That Omnipotency cannot make a ſubſtance to be ſolid and not ſolid at the ſame time, I think with due reverence we may ſay; but that a ſolid ſubſtance may not have qualities, perfections, and powers, which have no natural or viſibly neceſſary connexion with ſolidity and extenſion, is too much for us (who are but of yeſterday, and know nothing) to be poſitive in. If God cannot join things together by connexions inconceivable to us, we muſt deny even the conſiſtency and being of matter itſelf; ſince every particle of it having ſome bulk, has its parts connected by ways inconceivable to us. So that all the difficulties that are raiſed againſt the thinking of matter, from our ignorance, or narrow conceptions, ſtand not at all in the way of the power of God, if he pleaſes to ordain it ſo; nor prove any thing againſt his having actually endued ſome parcels of matter, ſo diſpoſed as he thinks fit, with a faculty of thinking, till it can be ſhown, that it contains a contradiction to ſuppoſe it.

Though to me ſenſation be comprehended under thinking in general, yet, in the foregoing diſcourſe, I have ſpoke of ſenſe in brutes, as diſtinct *from thinking*; becauſe your lordſhip, as I remember, ſpeaks of ſenſe in brutes. *But here* I take liberty to obſerve, that if your lordſhip allows

brutes

brutes to have ſenſation, it will follow, either that God can and doth give to ſome parcels of matter a power of perception and thinking; or that all animals have immaterial, and conſequently, according to your lordſhip, immortal ſouls, as well as men; and to ſay that fleas and mites, &c. have immortal ſouls as well as men, will poſſibly be looked on as going a great way to ſerve an hypotheſis.

I have been pretty large in making this matter plain, that they who are ſo forward to beſtow hard cenſures or names on the opinions of thoſe who differ from them, may conſider whether ſometimes they are not more due to their own; and that they may be perſuaded a little to temper that heat, which, ſuppoſing the truth in their current opinions, gives them (as they think) a right to lay what imputations they pleaſe on thoſe who would fairly examine the grounds they ſtand upon. For talking with a ſuppoſition and inſinuations, that truth and knowledge, nay, and religion too, ſtand and fall with their ſyſtems, is at beſt but an imperious way of begging the queſtion, and aſſuming to themſelves, under the pretence of zeal for the cauſe of God, a title to infallibility. It is very becoming that men's zeal for truth ſhould go as far as their proofs, but not go for proofs themſelves. He that attacks received opinions with any thing but fair arguments, may, I own, be juſtly ſuſpected not to mean well, nor to be led by the love of truth; but the ſame may be ſaid of him too, who ſo defends them. An error is not the better for being common, nor truth the worſe for having lain neglected: and if it were put to the vote any where in the world, I doubt, as things are managed, whether truth would have the majority, at leaſt whilſt the authority of men, and not the examination of things, muſt be its meaſure. The imputation of ſcepticiſm, and thoſe broad inſinuations to render what I have writ ſuſpected, ſo frequent, as if that were the great buſineſs of all this pains you have been at about me, has made me ſay thus much, my lord, rather as my ſenſe of the way to eſtabliſh truth in its full force and beauty, than that I think the world will need to have any thing ſaid to it, to make it diſtinguiſh between your lordſhip's and my deſign in writing, which therefore I ſecurely leave to the judgment of the reader, and return to the argument in hand.

What I have above ſaid, I take to be a full anſwer to all that your lordſhip would infer from my idea of matter, of liberty, of identity, and from the power of abſtracting. You aſk, * How can my idea of liberty agree with the idea that bodies can operate only by motion and impulſe? Anſ. By the omnipotency of God, who can make all things agree, that involve not a contradiction. It is true, I ſay, "† That bodies operate by impulſe, and nothing elſe." And ſo I thought when I writ it, and can yet conceive no other way of their operation. But I am ſince convinced by the judicious Mr. Newton's incomparable book, that it is too bold a preſumption to limit God's power in this point by my narrow conceptions. The gravitation of matter towards matter, by ways unconceivable to me, is not only a demonſtration that God can, if he pleaſes, put into bodies powers, and ways of operation, above what can be derived from our idea of body, or can be explained by what we know of matter, but alſo an unqueſtionable, and every where viſible inſtance, that he has done ſo. And therefore in the next edition of my book, I will take care to have that paſſage rectified.

* *1ſt* Anſwer. † Eſſay, B. 2. Ch. 8. §. 11.

As to ſelf-conſciouſneſs, your lordſhip aſks, * What is there like ſelf-conſciouſneſs in matter? Nothing at all in matter as matter. But that God cannot beſtow on ſome parcels of matter a power of thinking, and with it ſelf-conſciouſneſs, will never be proved by aſking, † How is it poſſible to apprehend that mere body ſhould perceive that it doth perceive? The weakneſs of our apprehenſion I grant in the caſe: I confeſs as much as you pleaſe, that we cannot conceive how a ſolid, no, nor how an unſolid created ſubſtance thinks; but this weakneſs of our apprehenſions reaches not the power of God, whoſe weakneſs is ſtronger than any thing in men.

Your argument from abſtraction we have in this queſtion, ‡ If it may be in the power of matter to think, how comes it to be ſo impoſſible for ſuch organized bodies as the brutes have, to enlarge their ideas by abſtraction? Anſ. This ſeems to ſuppoſe, that I place thinking within the natural power of matter. If that be your meaning, my lord, I never ſay, nor ſuppoſe, that all matter has naturally in it a faculty of thinking, but the direct contrary. But if you mean that certain parcels of matter, ordered by the Divine power, as ſeems fit to him, may be made capable of receiving from his omnipotency the faculty of thinking; that, indeed, I ſay; and that being granted, the anſwer to your queſtion is eaſy; ſince, if Omnipotency can give thought to any ſolid ſubſtance, it is not hard to conceive, that God may give that faculty in a higher or lower degree, as it pleaſes him, who knows what diſpoſition of the ſubject is ſuited to ſuch a particular way or degree of thinking.

Another argument to prove, that God cannot endue any parcel of matter with the faculty of thinking, is taken from thoſe words of mine, ‖ where I ſhow, by what connexion of ideas we may come to know, that God is an immaterial ſubſtance. They are theſe, "The idea of an eternal "actual knowing being, with the idea of immateriality, by the inter-"vention of the idea of matter, and of its actual diviſion, diviſibility, "and want of perception," &c. From whence your lordſhip thus argues, ** Here the want of perception is owned to be ſo eſſential to matter, that God is therefore concluded to be immaterial. Anſw. Perception and knowledge in that one eternal being, where it has its ſource, it is viſible muſt be eſſentially inſeparable from it; therefore the actual want of perception in ſo great a part of the particular parcels of matter, is a demonſtration, that the firſt being, from whom perception and knowledge are inſeparable, is not matter: how far this makes the want of perception an eſſential property of matter, I will not diſpute; it ſuffices that it ſhows, that perception is not an eſſential property of matter; and therefore matter cannot be that eternal original being to which perception and knowledge are eſſential. Matter, I ſay, naturally is without perception: ergo, ſays your lordſhip, want of perception is an eſſential property of matter, and God does not change the eſſential properties of things, their nature remaining. From whence you infer, that God cannot beſtow on any parcel of matter (the nature of matter remaining) a faculty of thinking. If the rules of logic, ſince my days, be not changed, I may ſafely deny this conſequence. For an argument that runs thus, God does not; ergo, he cannot, I was taught when I firſt came to the univerſity, would not hold. For I never ſaid God did; but, †† "That I ſee no contradiction in it,

* 1ſt Anſ. † Ibid. ‡ Ibid. ‖ 1ſt Letter. ** 1ſt Anſ.
†† B. 4. C. 3. §. 6.

"that

" that he ſhould, if he pleaſed, give to ſome ſyſtems of ſenſeleſs matter a " faculty of thinking;" and I know nobody before Des Cartes, that ever pretended to ſhow that there was any contradiction in it. So that at worſt, my not being able to ſee in matter any ſuch incapacity, as makes it impoſſible for Omnipotency to beſtow on it a faculty of thinking, makes me oppoſite only to the Carteſians. For, as far as I have ſeen or heard, the fathers of the chriſtian church never pretended to demonſtrate that matter was incapable to receive a power of ſenſation, perception and thinking, from the hand of the omnipotent Creator. Let us therefore, if you pleaſe, ſuppoſe the form of your argumentation right, and that your lordſhip means, God cannot: and then, if your argument be good, it proves, that God could not give to Balaam's aſs a power to ſpeak to his maſter as he did; for the want of rational diſcourſe being natural to that ſpecies, it is but for your lordſhip to call it an eſſential property, and then God cannot change the eſſential properties of things, their nature remaining: whereby it is proved, that God cannot, with all his omnipotency, give to an aſs a power to ſpeak as Balaam's did.

You ſay, * my lord, You do not ſet bounds to God's omnipotency: for he may, if he pleaſe, change a body into an immaterial ſubſtance, i. e. take away from a ſubſtance the ſolidity which it had before, and which made it matter, and then give it a faculty of thinking, which it had not before, and which makes it a ſpirit, the ſame ſubſtance remaining. For if the ſubſtance remains not, body is not changed into an immaterial ſubſtance, but the ſolid ſubſtance, and all belonging to it, is annihilated, and an immaterial ſubſtance created, which is not a change of one thing into another, but the deſtroying of one, and making another de novo. In this change therefore of a body or material ſubſtance into an immaterial, let us obſerve theſe diſtinct conſiderations.

Firſt, you ſay, God may, if he pleaſes, take away from a ſolid ſubſtance ſolidity, which is that which makes it a material ſubſtance or body; and may make it an immaterial ſubſtance, i. e. a ſubſtance without ſolidity. But this privation of one quality gives it not another; the bare taking away a lower or leſs noble quality does not give it an higher or nobler; that muſt be the gift of God. For the bare privation of one, and a meaner quality, cannot be the poſition of an higher and better; unleſs any one will ſay, that cogitation, or the power of thinking, reſults from the nature of ſubſtance itſelf; which if it do, then wherever there is ſubſtance, there muſt be cogitation, or a power of thinking. Here then, upon your lordſhip's own principles, is an immaterial ſubſtance without the faculty of thinking.

In the next place, you will not deny, but God may give to this ſubſtance, thus deprived of ſolidity, a faculty of thinking; for you ſuppoſe it made capable of that, by being made immaterial; whereby you allow, that the ſame numerical ſubſtance may be ſometimes wholly incogitative, or without a power of thinking, and at other times perfectly cogitative, or endued with a power of thinking.

Further, you will not deny, but God can give it ſolidity and make it material again. For, I conclude, it will not be denied, that God can make it again what it was before. Now I crave leave to aſk your lordſhip, why God, having given to this ſubſtance the faculty of thinking after ſolidity was taken from it, cannot reſtore to it ſolidity again, with-

* 1ſt Anſwer,

out taking away the faculty of thinking? When you have reſolved this, my lord, you will have proved it impoſſible for God's omnipotence to give a ſolid ſubſtance a faculty of thinking; but till then, not having proved it impoſſible, and yet denying that God can do it, is to deny that he can do what is in itſelf poſſible; which, as I humbly conceive, is viſibly to ſet bounds to God's omnipotency, though you ſay here * you do not ſet bounds to God's omnipotency.

If I ſhould imitate your lordſhip's way of writing, I ſhould not omit to bring in Epicurus here, and take notice that this was his way, Deum verbis ponere, re tollere: and then add, that I am certain you do not think he promoted the great ends of religion and morality. For it is with ſuch candid and kind inſinuations as theſe, that you bring in both † Hobbes and ‡ Spinoſa into your diſcourſe here about God's being able, if he pleaſe, to give to ſome parcels of matter, ordered as he thinks fit, a faculty of thinking: neither of thoſe authors having, as appears by any paſſages you bring out of them, ſaid any thing to this queſtion, nor having, as it ſeems, any other buſineſs here, but by their names ſkilfully to give that character to my book, with which you would recommend it to the world.

I pretend not to inquire what meaſure of zeal, nor for what, guides your lordſhip's pen in ſuch a way of writing, as your's has all along been with me: only I cannot but conſider, what reputation it would give to the writings of the fathers of the church, if they ſhould think truth required, or religion allowed them to imitate ſuch patterns. But God be thanked, there be thoſe amongſt them who do not admire ſuch ways of managing the cauſe of truth or religion; they being ſenſible that if every one, who believes or can pretend he hath truth on his ſide, is thereby authorized, without proof, to inſinuate whatever may ſerve to prejudice men's minds againſt the other ſide, there will be great ravage made on charity and practice, without any gain to truth or knowledge: and that the liberties frequently taken by diſputants to do ſo, may have been the cauſe that the world in all ages has received ſo much harm, and ſo little advantage from controverſies in religion.

Theſe are the arguments which your lordſhip has brought to confute one ſaying in my book, by other paſſages in it; which therefore being all but argumenta ad hominem, if they did prove what they do not, are of no other uſe, than to gain a victory over me: a thing methinks, ſo much beneath your lordſhip, that it does not deſerve one of your pages. The queſtion is, whether God can, if he pleaſes, beſtow on any parcel of matter, ordered as he thinks fit, a faculty of perception and thinking. You ſay, ‖ you look upon a miſtake herein to be of dangerous conſequence, as to the great ends of religion and morality. If this be ſo, my lord, I think one may well wonder, why your lordſhip has brought no arguments to eſtabliſh the truth itſelf which you look on to be of ſuch dangerous conſequence to be miſtaken in; but have ſpent ſo many pages only in a perſonal matter, in endeavouring to ſhow, that I had inconſiſtencies in my book; which if any ſuch thing had been ſhowed, the queſtion would be ſtill as far from being decided, and the danger of miſtaking about it as little prevented, as if nothing of all this had been ſaid. If therefore your lordſhip's care of the great ends of religion and morality have made

* 1ſt Anſwer. † Ibid. ‡ Ibid. ‖ Ibid.

you

you think it neceſſary to clear this queſtion, the world has reaſon to conclude there is little to be ſaid againſt that propoſition which is to be found in my book, concerning the poſſibility, that ſome parcels of matter might be ſo ordered by Omnipotence, as to be endued with a faculty of thinking, if God ſo pleaſed; ſince your lordſhip's concern for the promoting the great ends of religion and morality, has not enabled you to produce one argument againſt a propoſition that you think of ſo dangerous conſequence to them.

And here I crave leave to obſerve, that though in your title page you promiſe to prove, that my notion of ideas is inconſiſtent with itſelf, (which if it were, it could hardly be proved to be inconſiſtent with any thing elſe) and with the articles of the chriſtian faith; yet your attempts all along have been to prove me, in ſome paſſages of my book, inconſiſtent with myſelf, without having ſhown any propoſition in my book inconſiſtent with any article of the chriſtian faith.

I think your lordſhip has indeed made uſe of one argument of your own: but it is ſuch an one, that I confeſs I do not ſee how it is apt much to promote religion, eſpecially the chriſtian religion, founded on revelation. I ſhall ſet down your lordſhip's words, that they may be conſidered: you ſay, * that you are of opinion, that the great ends of religion and morality are beſt ſecured by the proofs of the immortality of the ſoul from its nature and properties; and which you think prove it immaterial. Your lordſhip does not queſtion whether God can give immortality to a material ſubſtance; but you ſay it takes off very much from the evidence of immortality, if it depend wholly upon God's giving that, which of its own nature it is not capable of, &c. So likewiſe you ſay, † If a man cannot be certain, but that matter may think, (as I affirm) then what becomes of the ſoul's immateriality (and conſequently immortality) from its operations? But for all this, ſay I, his aſſurance of faith remains on its own baſis. Now you appeal to any man of ſenſe, whether the finding the uncertainty of his own principles, which he went upon, in point of reaſon, doth not weaken the credibility of theſe fundamental articles, when they are conſidered purely as matters of faith? For before, there was a natural credibility in them on account of reaſon; but by going on wrong grounds of certainty, all that is loſt, and inſtead of being certain, he is more doubtful than ever. And if the evidence of faith fall ſo much ſhort of that of reaſon, it muſt needs have leſs effect upon men's minds, when the ſubſerviency of reaſon is taken away; as it muſt be when the grounds of certainty by reaſon are vaniſhed. Is it at all probable, that he who finds his reaſon deceive him in ſuch fundamental points, ſhall have his faith ſtand firm and unmoveable on the account of revelation? For in matters of revelation there muſt be ſome antecedent principles ſuppoſed, before we can believe any thing on the account of it.

More to the ſame purpoſe we have ſome pages farther, where, from ſome of my words your lordſhip ſays, ‡ you cannot but obſerve, that we have no certainty upon my grounds, that ſelf-conſciouſneſs depends upon an individual immaterial ſubſtance, and conſequently that a material ſubſtance may, according to my principles, have ſelf-conſciouſneſs in it; at leaſt, that I am not certain of the contrary. Whereupon your lordſhip bids me conſider, whether this doth not a little affect the whole article of the reſurrection. What does all this tend to, but to make the world

* 1ſt Anſwer. † 2d Anſwer. ‡ Ibid.

believe

believe that I have leſſened the credibility of the immortality of the ſoul, and the reſurrection, by ſaying, that though it be moſt highly probable, that the ſoul is immaterial, yet upon my principles it cannot be demonſtrated; becauſe it is not impoſſible to God's omnipotency, if he pleaſes, to beſtow upon ſome parcels of matter, diſpoſed as he ſees fit, a faculty of thinking?

This your accuſation of my leſſening the credibility of theſe articles of faith, is founded on this, that the article of the immortality of the ſoul abates of its credibility, if it be allowed, that its immateriality (which is the ſuppoſed proof from reaſon and philoſophy of its immortality) cannot be demonſtrated from natural reaſon: which argument of your lordſhip's, bottoms, as I humbly conceive, on this, that divine revelation abates of its credibility in all thoſe articles it propoſes, proportionably as human reaſon fails to ſupport the teſtimony of God. And all that your lordſhip in thoſe paſſages has ſaid, when examined, will, I ſuppoſe, be found to import thus much, viz. Does God propoſe any thing to mankind to be believed? It is very fit and credible to be believed, if reaſon can demonſtrate it to be true. But if human reaſon come ſhort in the caſe, and cannot make it out, its credibility is thereby leſſened; which is in effect to ſay, that the veracity of God is not a firm and ſure foundation of faith to rely upon, without the concurrent teſtimony of reaſon; i. e. with reverence be it ſpoken, God is not to be believed on his own word, unleſs what he reveals be in itſelf credible, and might be believed without him.

If this be a way to promote religion, the chriſtian religion, in all its articles, I am not ſorry that it is not a way to be found in any of my writings; for I imagine any thing like this would (and I ſhould think deſerved to) have other titles than bare ſcepticiſm beſtowed upon it, and would have raiſed no ſmall outcry againſt any one, who is not to be ſuppoſed to be in the right in all that he ſays, and ſo may ſecurely ſay what he pleaſes. Such as I, the profanum vulgus, who take too much upon us, if we would examine, have nothing to do but to hearken and believe, though what he ſaid ſhould ſubvert the very foundations of the chriſtian faith.

What I have above obſerved, is ſo viſibly cantained in your lordſhip's argument, that when I met with it in your anſwer to my firſt letter, it ſeemed ſo ſtrange for a man of your lordſhip's character, and in a diſpute in defence of the doctrine of the Trinity, that I could hardly perſuade myſelf, but it was a ſlip of your pen: but when I found it in your ſecond letter * made uſe of again, and ſeriouſly enlarged as an argument of weight to be inſiſted upon, I was convinced, that it was a principle that you heartily embraced, how little favourable ſoever it was to the articles of the chriſtian religion, and particularly thoſe which you undertook to defend.

I deſire my reader to peruſe the paſſages as they ſtand in your letters themſelves, and ſee whether what you ſay in them does not amount to this: that a revelation from God is more or leſs credible, according as it has a ſtronger or weaker confirmation from human reaſon. For,

1. Your lordſhip ſays, † you do not queſtion whether God can give immortality to a material ſubſtance; but you ſay it takes off very much from the evidence of immortality, if it depends wholly upon God's giving that, which of its own nature it is not capable of.

* 2d Anſwer. † 1ſt Anſwer.

To

To which I reply, any one's not being able to demonſtrate the ſoul to be immaterial, takes off not very much, nor at all, from the evidence of its immortality, if God has revealed that it ſhall be immortal; becauſe the veracity of God is a demonſtration of the truth of what he has revealed, and the want of another demonſtration of a propoſition, that is demonſtratively true, takes not off from the evidence of it. For where there is a clear demonſtration, there is as much evidence as any truth can have, that is not ſelf-evident. God has revealed that the ſouls of men ſhould live for ever. But, ſays your lordſhip, from this evidence it takes off very much, if it depends wholly upon God's giving that, which of its own nature it is not capable of, i. e. The revelation and teſtimony of God loſes much of its evidence, if this depends wholly upon the good pleaſure of God, and cannot be demonſtratively made out by natural reaſon, that the ſoul is immaterial, and conſequently in its own nature immortal. For that is all that here is or can be meant by theſe words, which of its own nature it is not capable of, to make them to the purpoſe. For the whole of your lordſhip's diſcourſe here, is to prove, that the ſoul cannot be material, becauſe then the evidence of its being immortal would be very much leſſened. Which is to ſay, that it is not as credible upon divine revelation, that a material ſubſtance ſhould be immortal, as an immaterial; or which is all one, that God is not equally to be believed, when he declares, that a material ſubſtance ſhall be immortal, as when he declares, that an immaterial ſhall be ſo; becauſe the immortality of a material ſubſtance cannot be demonſtrated from natural reaſon.

Let us try this rule of your lordſhip's a little farther. God hath revealed, that the bodies men ſhall have after the reſurrection, as well as their ſouls, ſhall live to eternity. Does your lordſhip believe the eternal life of the one of theſe more than of the other, becauſe you think you can prove it of one of them by natural reaſon, and of the other not? Or can any one, who admits of divine revelation in the caſe, doubt of one of them more than the other? Or think this propoſition leſs credible, that the bodies of men, after the reſurrection, ſhall live for ever; than this, That the ſouls of men ſhall, after the reſurrection, live for ever? For that he muſt do, if he thinks either of them is leſs credible than the other. If this be ſo, reaſon is to be conſulted how far God is to be believed, and the credit of divine teſtimony muſt receive its force from the evidence of reaſon; which is evidently to take away the credibility of divine revelation in all ſupernatural truths, wherein the evidence of reaſon fails. And how much ſuch a principle as this tends to the ſupport of the doctrine of the Trinity, or the promoting the chriſtian religion, I ſhall leave it to your lordſhip to conſider.

I am not ſo well read in Hobbes or Spinoſa, as to be able to ſay, what were their opinions in this matter. But poſſibly there be thoſe, who will think your lordſhip's authority of more uſe to them in the caſe, than thoſe juſtly decried names; and be glad to find your lordſhip a patron of the oracles of reaſon, ſo little to the advantage of the oracles of divine revelation. This at leaſt, I think, may be ſubjoined to the words at the bottom of the next page*, That thoſe who have gone about to leſſen the credibility of the articles of faith, which evidently they do, who ſay they are leſs credible, becauſe they cannot be made out demonſtratively by natural reaſon, have not been thought to ſecure ſeveral of the articles

* 1ſt Anſwer.

of

of the chriſtian faith, eſpecially thoſe of the trinity, incarnation, and reſurrection of the body, which are thoſe upon the account of which I am brought by your lordſhip into this diſpute.

I ſhall not trouble the reader with your lordſhip's endeavours, in the following words, to prove, that if the ſoul be not an immaterial ſubſtance, it can be nothing but life; your very firſt words viſibly confuting all that you alledge to that purpoſe, they are, * If the ſoul be a material ſubſtance, it is really nothing but life; which is to ſay, That if the ſoul be really a ſubſtance, it is not really a ſubſtance, but really nothing elſe but an affection of a ſubſtance; for the life, whether of a material or immaterial ſubſtance, is not the ſubſtance itſelf, but an affection of it.

2. You ſay, † Although we think the ſeparate ſtate of the ſoul after death, is ſufficiently revealed in the ſcripture; yet it creates a great difficulty in underſtanding it, if the ſoul be nothing but life, or a material ſubſtance, which muſt be diſſolved when life is ended. For, if the ſoul be a material ſubſtance, it muſt be made up, as others are, of the cohesion of ſolid and ſeparate parts, how minute and inviſible ſoever they be. And what is it which ſhould keep them together, when life is gone? So that it is no eaſy matter to give an account how the ſoul ſhould be capable of immortality, unleſs it be an immaterial ſubſtance; and then we know the ſolution and texture of bodies cannot reach the ſoul, being of a different nature.

Let it be as hard a matter as it will, to give an account what it is that ſhould keep the parts of a material ſoul together, after it is ſeparated from the body; yet it will be always as eaſy to give an account of it, as to give an account what it is that ſhall keep together a material and immaterial ſubſtance. And yet the difficulty that there is to give an account of that, I hope, does not, with your lordſhip, weaken the credibility of the inſeparable union of ſoul and body to eternity: and I perſuade myſelf, that the men of ſenſe, to whom your lordſhip appeals in the caſe, do not find their belief of this fundamental point much weakened by that difficulty. I thought heretofore (and by your lordſhip's permiſſion would think ſo ſtill) that the union of the parts of matter, one with another, is as much in the hands of God, as the union of a material and immaterial ſubſtance; and that it does not take off very much, or at all, from the evidence of immortality, which depends on that union, that it is no eaſy matter to give an account what it is that ſhould keep them together: though its depending wholly upon the gift and good pleaſure of God, where the manner creates great difficulty in the underſtanding, and our reaſon cannot diſcover in the nature of things how it is, be that which, your lordſhip ſo poſitively ſays, leſſens the credibility of the fundamental articles of the reſurrection and immortality.

But, my lord, to remove this objection a little, and to ſhow of how ſmall force it is even with yourſelf; give me leave to preſume, that your lordſhip as firmly believes the immortality of the body after the reſurrection, as any other article of faith; if ſo, then it being no eaſy matter to give an account what it is that ſhall keep together the parts of a material ſoul, to one that believes it is material, can no more weaken the credibility of its immortality, than the like difficulty weakens the credibility of the immortality of the body. For, when your lordſhip ſhall find it an eaſy matter to give an account what it is, beſides the good pleaſure of

* 1ſt Anſwer. † Ibid.

God,

God, which ſhall keep together the parts of our material bodies to eternity, or even ſoul and body, I doubt not but any one who ſhall think the ſoul material, will alſo find it as eaſy to give an account what it is that ſhall keep thoſe parts of matter alſo together to eternity.

Were it not that the warmth of controverſy is apt to make men ſo far forget, as to take up thoſe principles themſelves (when they will ſerve their turn) which they have highly condemned in others, I ſhould wonder to find your lordſhip to argue, that becauſe it is a difficulty to underſtand what ſhall keep together the minute parts of a material ſoul, when life is gone; and becauſe it is not an eaſy matter to give an account how the ſoul ſhall be capable of immortality, unleſs it be an immaterial ſubſtance: therefore it is not ſo credible, as if it were eaſy to give an account by natural reaſon, how it could be. For to this it is that all this your diſcourſe tends, as is evident by what is already ſet down; and will be more fully made out by what your lordſhip ſays in other places, though there needs no ſuch proof, ſince it would all be nothing againſt me in any other ſenſe.

I thought your lordſhip had in other places aſſerted, and inſiſted on this truth, that no part of divine revelation was the leſs to be believed, becauſe the thing itſelf created great difficulty in the underſtanding, and the manner of it was hard to be explained, and it was no eaſy matter to give an account how it was. This, as I take it, your lordſhip condemned in others as a very unreaſonable principle, and ſuch as would ſubvert all the articles of the chriſtian religion, that were mere matters of faith, as I think it will: and is it poſſible, that you ſhould make uſe of it here yourſelf, againſt the article of life and immortality, that Chriſt hath brought to light through the goſpel, and neither was, nor could be made out by natural reaſon without revelation? But you will ſay, you ſpeak only of the ſoul; and your words are, That it is no eaſy matter to give an account how the ſoul ſhould be capable of immortality, unleſs it be an immaterial ſubſtance. I grant it; but crave leave to ſay, that there is not any one of thoſe difficulties, that are or can be raiſed about the manner how a material ſoul can be immortal, which do not as well reach the immortality of the body.

But, if it were not ſo, I am ſure this principle of your lordſhip's would reach other articles of faith, wherein our natural reaſon finds it not ſo eaſy to give an account how thoſe myſteries are; and which therefore, according to your principles, muſt be leſs credible than other articles, that create leſs difficulty to the underſtanding. For your lordſhip ſays, * that you appeal to any man of ſenſe, whether to a man, who thought by his principles he could from natural grounds demonſtrate the immortality of the ſoul, the finding the uncertainty of thoſe principles he went upon in point of reaſon, i. e. the finding he could not certainly prove it by natural reaſon, doth not weaken the credibility of that fundamental article, when it is conſidered purely as a matter of faith? which, in effect, I humbly conceive, amounts to this, that a propoſition divinely revealed, that cannot be proved by natural reaſon, is leſs credible than one that can: which ſeems to me to come very little ſhort of this, with due reverence be it ſpoken, that God is leſs to be believed when he affirms a propoſition that cannot be proved by natural reaſon, than when he propoſes what can be proved by it. The direct contrary to which is my opinion,

* 2d Anſwer.

though

though you endeavour to make it good by theſe following words; * If the evidence of faith fall ſo much ſhort of that of reaſon it muſt needs have leſs effect upon men's minds, when the ſubſerviency of reaſon is taken away; as it muſt be when the grounds of certainty by reaſon are vaniſhed. Is it at all probable, that he who finds his reaſon deceive him in ſuch fundamental points, ſhould have his faith ſtand firm and unmoveable on the account of revelation? Than which I think there are hardly plainer words to be found out to declare, that the credibility of God's teſtimony depends on the natural evidence of probability of the things we receive from revelation, and riſes and falls with it; and that the truths of God, or the articles of mere faith, loſe ſo much of their credibility, as they want proof from reaſon: which if true, revelation may come to have no credibility at all. For if, in this preſent caſe, the credibility of this propoſition, the ſouls of men ſhall live for ever, revealed in the ſcripture, be leſſened by confeſſing it cannot be demonſtratively proved from reaſon; though it be aſſerted to be moſt highly probable: muſt not, by the ſame rule, its credibility dwindle away to nothing, if natural reaſon ſhould not be able to make it out to be ſo much as probable, or ſhould place the probability from natural principles on the other ſide? For, if mere want of demonſtration leſſens the credibility of any propoſition divinely revealed, muſt not want of probability, or contrary probability from natural reaſon, quite take away its credibility? Here at laſt it muſt end, if in any one caſe the veracity of God, and the credibility of the truths we receive from him by revelation, be ſubjected to the verdicts of human reaſon, and be allowed to receive any acceſſion or diminution from other proofs, or want of other proofs of its certainty or probability.

If this be your lordſhip's way to promote religion, or defend its articles, I know not what argument the greateſt enemies of it could uſe more effectual for the ſubverſion of thoſe you have undertaken to defend; this being to reſolve all revelation perfectly and purely into natural reaſon, to bound its credibility by that, and leave no room for faith in other things, than what can be accounted for by natural reaſon without revelation.

Your lordſhip † inſiſts much upon it, as if I had contradicted what I have ſaid in my eſſay, by ſaying ‡ that upon my principles it cannot be demonſtratively proved, that it is an immaterial ſubſtance in us that thinks, however probable it be. He that will be at the pains to read that chapter of mine, and conſider it, will find, that my buſineſs there was to ſhow, that it was no harder to conceive an immaterial than a material ſubſtance; and that from the ideas of thought, and a power of moving of matter, which we experienced in ourſelves, (ideas originally not belonging to matter as matter) there was no more difficulty to conclude there was an immaterial ſubſtance in us, than that we had material parts. Theſe ideas of thinking, and power of moving of matter, I in another place ſhowed, did demonſtratively lead us to the certain knowledge of the exiſtence of an immaterial thinking being, in whom we have the idea of ſpirit in the ſtricteſt ſenſe; in which ſenſe I alſo applied it to the ſoul, in the 23d ch. of my eſſay; the eaſily conceivable poſſibility, nay great probability, that the thinking ſubſtance in us is immaterial, giving me ſufficient ground for it: in which ſenſe I ſhall think I may ſafely attribute it to the thinking ſubſtance in us, till your lordſhip ſhall have better proved from my words, that it is impoſſible it ſhould be immaterial. For I only ſay, that

* *2d Anſwer.* † *1ſt Anſwer.* ‡ B. 2. C. 23.

it is poſſible, i. e. involves no contradiction, that God, the omnipotent immaterial ſpirit, ſhould, if he pleaſes, give to ſome parcels of matter, diſpoſed as he thinks fit, a power of thinking and moving: which parcels of matter, ſo endued with a power of thinking and motion, might properly be called ſpirits, in contradiſtinction to unthinking matter. In all which, I preſume, there is no manner of contradiction.

I juſtified my uſe of the word ſpirit, in that ſenſe, from the authorities of Cicero and Virgil, applying the Latin word ſpiritus, from whence ſpirit is derived, to the ſoul as a thinking thing, without excluding materiality out of it. To which your lordſhip replies, * That Cicero, in his Tuſculan Queſtions, ſuppoſes the ſoul not to be a finer ſort of body, but of a different nature from the body——That he calls the body the priſon of the ſoul——And ſays, that a wiſe man's buſineſs is to draw off his ſoul from his body. And then your lordſhip concludes, as is uſual, with a queſtion, Is it poſſible now to think ſo great a man looked on the ſoul but as a modification of the body, which muſt be at an end with life? Anſ. No; it is impoſſible that a man of ſo good ſenſe as Tully, when he uſes the word corpus or body for the groſs and viſible parts of a man, which he acknowledges to be mortal, ſhould look on the ſoul to be a modification of that body; in a diſcourſe wherein he was endeavouring to perſuade another, that it was immortal. It is to be acknowledged that truly great men, ſuch as he was, are not wont ſo manifeſtly to contradict themſelves. He had therefore no thought concerning the modification of the body of a man in the caſe: he was not ſuch a trifler as to examine, whether the modification of the body of a man was immortal, when that body itſelf was mortal: and therefore, that which he reports as Dicæarchus's opinion, he diſmiſſes in the beginning without any more ado, c. 11. But Cicero's was a direct, plain, and ſenſible inquiry, viz. What the ſoul was? to ſee whether from thence he could diſcover its immortality. But in all that diſcourſe in his firſt book of Tuſculan Queſtions, where he lays out ſo much of his reading and reaſon, there is not one ſyllable ſhowing the leaſt thought that the ſoul was an immaterial ſubſtance; but many things directly to the contrary.

Indeed (1) he ſhuts out the body, taken in the ſenſes he uſes † corpus all along, for the ſenſible organical parts of a man; and is poſitive that is not the ſoul: and body in this ſenſe, taken for the human body, he calls the priſon of the ſoul: and ſays a wiſe man, inſtancing in Socrates and Cato, is glad of a fair opportunity to get out of it. But he no where ſays any ſuch thing of matter: he calls not matter in general the priſon of the ſoul, nor talks a word of being ſeparate from it.

2. He concludes, that the ſoul is not, like other things here below, made up of a compoſition of the elements, ch. 27.

3. He excludes the two groſs elements, earth and water, from being the ſoul, ch. 26.

So far he is clear and poſitive: but beyond this he is uncertain; beyond this he could not get: for in ſome places he ſpeaks doubtfully, whether the ſoul be not air or fire. Anima ſit animus, igniſve, neſcio, c. 25. And therefore he agrees with Panætius, that, if it be at all elementary, it is, as he calls it, inflammata anima, inflamed air; and for this he gives ſeveral reaſons, c. 18, 19. And though he thinks it to be of a peculiar nature

* 1ſt Anſwer. † Ch. 19, 22, 30, 31, &c.

of its own, yet he is ſo far from thinking it immaterial, that he ſays, c. 19. that the admitting it to be of an aerial or igneous nature, will not be inconſiſtent with any thing he had ſaid.

That which he ſeems moſt to incline to is, that the ſoul was not at all elementary, but was of the ſame ſubſtance with the heavens; which Ariſtotle, to diſtinguiſh from the four elements, and the changeable bodies here below, which he ſuppoſed made up of them, called quinta eſſentia. That this was Tully's opinion is plain from theſe words, Ergo animus (qui, ut ego dico, divinus) eſt, ut Euripides audet dicere, Deus: & quidem, ſi Deus aut anima aut ignis eſt, idem eſt animus hominis. Nam ut illa natura cœleſtis et terrâ vacat & humore; ſic utriuſque harum rerum humanus animus eſt expers. Sin autem eſt quinta quædam natura ab Ariſtotele inducta; primum hæc & deorum eſt & animorum. Hanc nos ſententiam ſecuti, his ipſis verbis in conſolatione hæc expreſſimus, ch. 29. And then he goes on, c. 27. to repeat thoſe his own words, which your lordſhip has quoted out of him, wherein he had affirmed, in his treatiſe De Conſolatione, the ſoul not to have its original from the earth, or to be mixed or made of any thing earthly; but had ſaid, ſingularis eſt igitur quædam natura & vis animi, ſejuncta ab his uſitatis notiſque naturis: whereby he tells us, he meant nothing but Ariſtotle's quinta eſſentia: which being unmixed, being that of which the gods and ſouls conſiſted, he calls it divinum cœleſte, and concludes it eternal; it being, as he ſpeaks, ſejuncta ab omni mortali concretione. From which it is clear, that in all his inquiry about the ſubſtance of the ſoul, his thoughts went not beyond the four elements, or Ariſtotle's quinta eſſentia, to look for it. In all which there is nothing of immateriality, but quite the contrary.

He was willing to believe (as good and wiſe men have always been) that the ſoul was immortal; but for that, it is plain, he never thought of its immateriality, but as the eaſtern people do, who believe the ſoul to be immortal, but have nevertheleſs no thought, no conception of its immateriality. It is remarkable what a very conſiderable and judicious author ſays * in the caſe. No opinion, ſays he, has been ſo univerſally received as that of the immortality of the ſoul; but its immateriality is a truth, the knowledge whereof has not ſpread ſo far. And indeed it is extremely difficult to let into the mind of a Siamite the idea of a pure ſpirit. This the miſſionaries who have been longeſt among them, are poſitive in. All the pagans of the eaſt do truly believe, that there remains ſomething of a man after his death, which ſubſiſts independently and ſeparately from his body. But they give extenſion and figure to that which remains, and attribute to it all the ſame members, all the ſame ſubſtances, both ſolid and liquid, which our bodies are compoſed of. They only ſuppoſe that the ſouls are of a matter ſubtile enough to eſcape being ſeen or handled.—Such were the ſhades and manes of the Greeks and the Romans. And it is by theſe figures of the ſouls, anſwerable to thoſe of the bodies, that Virgil ſuppoſed Æneas knew Palinurus, Dido, and Anchiſes, in the other world.

This gentleman was not a man that travelled into thoſe parts for his pleaſure, and to have the opportunity to tell ſtrange ſtories, collected by chance, when he returned: but one choſen on purpoſe (and he ſeems well choſen for the purpoſe) to inquire into the ſingularities of Siam. And he has ſo well acquitted himſelf of the commiſſion, which his epiſtle dedica-

* Loubere du Royaume de Siam, T. 1. c. 19. §. 4.

tory tells us he had, to inform himſelf exactly of what was moſt remarkable there, that had we but ſuch an account of other countries of the eaſt, as he has given us of this kingdom, which he was an envoy to, we ſhould be much better acquainted than we are, with the manners, notions, and religions of that part of the world inhabited by civilized nations, who want neither good ſenſe nor acuteneſs of reaſon, though not caſt into the mould of the logick and philoſophy of our ſchools.

But to return to Cicero: it is plain, that in his inquiries about the ſoul, his thoughts went not at all beyond matter. This the expreſſions that drop from him in ſeveral places of this book evidently ſhow. For example, that the ſouls of excellent men and women aſcended into heaven; of others, that they remained here on earth, c. 12. That the ſoul is hot, and warms the body: that, at its leaving the body, it penetrates, and divides, and breaks through our thick, cloudy, moiſt air: that it ſtops in the region of fire, and aſcends no farther, the equality of warmth and weight making that its proper place, where it is nouriſhed and ſuſtained, with the ſame things wherewith the ſtars are nouriſhed and ſuſtained, and that by the convenience of its neighbourhood it ſhall there have a clearer view and fuller knowledge of the heavenly bodies, c. 19. That the ſoul alſo from this height ſhall have a pleaſant and fairer proſpect of the globe of the earth, the diſpoſition of whoſe parts will then lie before it in one view, c. 20. That it is hard to determine what conformation, ſize, and place, the ſoul has in the body: that it is too ſubtile to be ſeen: that it is in the human body as in a houſe, or a veſſel, or a receptacle, c. 22. All which are expreſſions that ſufficiently evidence, that he who uſed them had not in his mind ſeparated materiality from the idea of the ſoul.

It may perhaps be replied, that a great part of this which we find in chap. 19. is ſaid upon the principles of thoſe who would have the ſoul to be anima inflammata, inflamed air. I grant it. But it is alſo to be obſerved, that in this 19th, and the two following chapters, he does not only not deny, but even admits, that ſo material a thing as inflamed air may think.

The truth of the caſe in ſhort is this: Cicero was willing to believe the ſoul immortal; but, when he ſought in the nature of the ſoul itſelf ſomething to eſtabliſh this his belief into a certainty of it, he found himſelf at a loſs. He confeſſed he knew not what the ſoul was; but the not knowing what it was, he argues, c. 22. was no reaſon to conclude it was not. And thereupon he proceeds to the repetition of what he had ſaid in his 6th book, De Repub. concerning the ſoul. The argument, which, borrowed from Plato, he there makes uſe of, if it have any force in it, not only proves the ſoul to be immortal, but more than, I think, your lordſhip will allow to be true: for it proves it to be eternal, and without beginning, as well as without end: Neque nata certe eſt, & æterna eſt, ſays he.

Indeed from the faculties of the ſoul he concludes right, that it is of divine original: but as to the ſubſtance of the ſoul, he at the end of this diſcourſe concerning its faculties, c. 25. as well as at this beginning of it, c. 22. is not aſhamed to own his ignorance of what it is; Anima ſit animus, ignisve, neſcio; nec me pudet, ut iſtos, fateri neſcire quod neſciam. Illud ſi ulla alia de re obſcura affirmare poſſem, ſive anima, ſive ignis ſit animus, eum jurarem eſſe divinum, c. 25. So that all the certainty he could attain to about the ſoul, was, that he was confident there

was ſomething divine in it, i. e. there were faculties in the ſoul that could not reſult from the nature of matter, but muſt have their original from a divine power; but yet thoſe qualities, as divine as they were, he acknowledged might be placed in breath or fire, which, I think, your lordſhip will not deny to be material ſubſtances. So that all thoſe divine qualities, which he ſo much and ſo juſtly extols in the ſoul, led him not, as appears, ſo much as to any the leaſt thought of immateriality. This is demonſtration, that he built them not upon an excluſion of materiality out of the ſoul; for he avowedly profeſſes he does not know, but breath or fire might be this thinking thing in us: and in all his conſiderations about the ſubſtance of the ſoul itſelf, he ſtuck in air, or fire, or Ariſtotle's quinta eſſentia; for beyond thoſe it is evident he went not.

But with all his proofs out of Plato, to whoſe authority he defers ſo much, with all the arguments his vaſt reading and great parts could furniſh him with for the immortality of the ſoul, he was ſo little ſatisfied, ſo far from being certain, ſo far from any thought that he had, or could prove it, that he over and over again profeſſes his ignorance and doubt of it. In the beginning he enumerates the ſeveral opinions of the philoſophers, which he had well ſtudied, about it: and then, full of uncertainty, ſays, Harum ſententiarum quæ vera ſit, Deus aliquis viderit; quæ verisimillima, magna quæſtio, c. 11. And towards the latter end, having gone them all over again, and one after another examined them, he profeſſes himſelf ſtill at a loſs, not knowing on which to pitch, nor what to determine. Mentis acies, ſays he, ſeipſam intuens, nonnunquam hebeſcit, ob eamque cauſam contemplandi diligentiam amittimus. Itaque dubitans, circumſpectans, hæſitans, multa adverſa revertens, tanquam in rate in mari immenſo, noſtra vehitur oratio, c. 30. And to conclude this argument, when the perſon he introduces as diſcourſing with him, tells him he is reſolved to keep firm to the belief of immortality; Tully anſwers, c. 32. Laudo id quidem, etſi nihil animis oportet confidere: movemur enim ſæpe aliquo acute concluſo; labamus, mutamuſque ſententiam clarioribus etiam in rebus; in his eſt enim aliqua obſcuritas.

So unmoveable is that truth delivered by the ſpirit of truth, that though the light of nature gave ſome obſcure glimmering, ſome uncertain hopes of a future ſtate; yet human reaſon could attain to no clearneſs, no certainty about it, but that it was JESUS CHRIST alone, who had brought life and immortality to light through the goſpel *. Though we are now told, that to own the inability of natural reaſon to bring immortality to light, or, which paſſes for the ſame, to own principles upon which the immateriality of the ſoul (and, as it is urged, conſequently its immortality) cannot be demonſtratively proved, does leſſen the belief of this article of revelation, which JESUS CHRIST alone has brought to light, and which conſequently the ſcripture aſſures us is eſtabliſhed and made certain only by revelation. This would not perhaps have ſeemed ſtrange, from thoſe who are juſtly complained of for ſlighting the revelation of the goſpel, and therefore would not be much regarded, if they ſhould contradict ſo plain a text of ſcripture, in favour of their all-ſufficient reaſon: but what uſe the promoters of ſcepticiſm and infidelity, in an age ſo much ſuſpected by your lordſhip, may make of what comes from one of your great authority and learning, may deſerve your conſideration.

* 2 Tim. i. 10.

And

And thus, my lord, I hope, I have ſatisfied you concerning Cicero's opinion about the ſoul, in his firſt book of Tuſculan queſtions; which, though I eaſily believe, as your lordſhip ſays, you are no ſtranger to, yet I humbly conceive you have not ſhown, (and, upon a careful peruſal of that treatiſe again, I think I may boldly ſay you cannot ſhow) one word in it, that expreſſes any thing like a notion in Tully of the ſoul's immateriality, or its being an immaterial ſubſtance.

From what you bring out of Virgil, your lordſhip concludes, * That he, no more than Cicero, does me any kindneſs in this matter, being both aſſerters of the ſoul's immortality. My lord, were not the queſtion of the ſoul's immateriality, according to cuſtom, changed here into that of its immortality, which I am no leſs an aſſerter of than either of them, Cicero and Virgil do me all the kindneſs I deſired of them in this matter; and that was to ſhow, that they attributed the word ſpiritus to the ſoul of man, without any thought of its immateriality; and this the verſes you yourſelf bring out of Virgil †,

Et cum frigida mors animâ ſeduxerit artus,
Omnibus umbra locis adero; dabis, improbe, pœnas;

confirm, as well as thoſe I quoted out of his 6th book: and for this monſieur de la Loubere ſhall be my witneſs in the words above ſet down out of him; where he ſhows, that there be thoſe amongſt the heathens of our days, as well as Virgil and others amongſt the ancient Greeks and Romans, who thought the ſouls or ghoſts of men departed did not die with the body, without thinking them to be perfectly immaterial; the latter being much more incomprehenſible to them than the former. And what Virgil's notion of the ſoul is, and that corpus, when put in contradiſtinction to the ſoul, ſignifies nothing but the groſs tenement of fleſh and bones, is evident from this verſe of his Æneid 6. where he calls the ſouls which yet were viſible,

——— Tenues ſine corpore vitas.

Your lordſhip's ‡ anſwer concerning what is ſaid Eccleſ. xii. turns wholly upon Solomon's taking the ſoul to be immortal, which was not what I queſtioned: all that I quoted that place for, was to ſhow, that ſpirit in Engliſh might properly be applied to the ſoul, without any notion of its immateriality, as רוח was by Solomon, which, whether he thought the ſouls of men to be immaterial, does little appear in that paſſage, where he ſpeaks of the ſouls of men and beaſts together, as he does. But farther, what I contended for is evident from that place, in that the word ſpirit is there applied by our tranſlators, to the ſouls of beaſts, which your lordſhip, I think, does not rank amongſt the immaterial, and conſequently immortal ſpirits, though they have ſenſe and ſpontaneous motion.

But you ſay, ‖ If the ſoul be not of itſelf a free thinking ſubſtance, you do not ſee what foundation there is in nature for a day of judgment. Anſ. Though the heathen world did not of old, nor do to this day, ſee a foundation in nature for a day of judgment; yet in revelation, if that will ſatisfy your lordſhip, every one may ſee a foundation for a day of judgment, becauſe God has poſitively declared it; though God has not by that revelation taught us, what the ſubſtance of the ſoul is; nor has any where ſaid, that the ſoul of itſelf is a free agent. Whatſoever any created ſubſtance is, it is not of itſelf, but is by the good pleaſure of its

* *1ſt Anſwer.* † Æneid. 4. 385. ‡ 1ſt Anſwer. ‖ Ibid.

Creator: whatever degrees of perfection it has, it has from the bountiful hand of its maker. For it is true in a natural, as well as a ſpiritual ſenſe, what St. Paul ſays, * Not that we are ſufficient of ourſelves to think any thing as of ourſelves, but our ſufficiency is of God.

But your lordſhip, as I gueſs by your following words, would argue, that a material ſubſtance cannot be a free agent; whereby I ſuppoſe you only mean, that you cannot ſee or conceive how a ſolid ſubſtance ſhould begin, ſtop, or change its own motion. To which give me leave to anſwer, that when you can make it conceivable, how any created, finite, dependant ſubſtance can move itſelf, or alter or ſtop its own motion, which it muſt to be a free agent; I ſuppoſe you will find it no harder for God to beſtow this power on a ſolid than an unſolid created ſubſtance. Tully, in the place above quoted, † could not conceive this power to be in any thing but what was from eternity; Cum patea igitur æternum id eſſe quod ſeipſum moveat, quis eſt qui hanc naturam animis eſſe tributam neget? But though you cannot ſee how any created ſubſtance, ſolid or not ſolid, can be a free agent, (pardon me, my lord, if I put in both, till your lordſhip pleaſe to explain it of either, and ſhow the manner how either of them can, of itſelf, move itſelf or any thing elſe) yet I do not think you will ſo far deny men to be free agents, from the difficulty there is to ſee how they are free agents, as to doubt whether there be foundation enough for a day of judgment.

It is not for me to judge how far your lordſhip's ſpeculations reach: but finding in myſelf nothing to be truer than what the wiſe Solomon tells me, ‡ As thou knoweſt not what is the way of the ſpirit, nor how the bones do grow in the womb of her that is with child; even ſo thou knoweſt not the works of God, who maketh all things; I gratefully receive and rejoice in the light of revelation, which ſets me at reſt in many things, the manner whereof my poor reaſon can by no means make out to me; Omnipotency, I know, can do any thing that contains in it no contradiction: ſo that I readily believe whatever God has declared, though my reaſon find difficulties in it which it cannot maſter. As in the preſent caſe; God having revealed that there ſhall be a day of judgment, I think that foundation enough to conclude men are free enough to be made anſwerable for their actions, and to receive according to what they have done; though how man is a free agent, ſurpaſſes my explication or comprehenſion.

In anſwer to the place I brought out of St. Luke ‖, your lordſhip aſks, ** Whether from theſe words of our Saviour it follows, that a ſpirit is only an appearance? I anſwer, No; nor do I know who drew ſuch an inference from them: but it follows, that in apparitions there is ſomething that appears, and that which appears is not wholly immaterial; and yet this was properly called πνεῦμα, and was often looked upon, by thoſe who called it πνεῦμα in Greek, and now call it ſpirit in Engliſh, to be the ghoſt or ſoul of one departed; which I humbly conceive juſtifies my uſe of the word ſpirit, for a thinking voluntary agent, whether material or immaterial.

Your lordſhip ſays, †† That I grant, that it cannot upon theſe principles be demonſtrated, that the ſpiritual ſubſtance in us is immaterial: from whence you conclude, That then my grounds of certainty from ideas are plainly given up. This being a way of arguing that you often

* 2 *Cor. iii.* 5. † Tuſculan. Quæſt. L. 1. c. 23. ‡ Eccleſ. xi. 5.
‖ C. *xxiv.* v. 39. ** 1ſt Anſwer. †† Ibid.

make

impoſſible for us, by the contemplation of our own ideas, without revelation, to diſcover, whether omnipotency has not given to ſome ſyſtems of matter fitly diſpoſed a power to perceive and think, or elſe joined and fixed to matter ſo diſpoſed a thinking immaterial ſubſtance: it being, in reſpect of our notions, not much more remote from our comprehenſion to conceive, that God can, if he pleaſes, ſuperadd to matter a faculty of thinking, than that he ſhould ſuperadd to it another ſubſtance, with a faculty of thinking; ſince we know not wherein thinking conſiſts, nor to what ſort of ſubſtances the Almighty has been pleaſed to give that power, which cannot be in any created being, but merely by the good pleaſure and bounty of the Creator. For I ſee no contradiction in it, that the firſt eternal thinking being ſhould, if he pleaſed, give to certain ſyſtems of created ſenſeleſs matter, put together as he thinks fit, ſome degrees of ſenſe, perception, and thought: though, as I think, I have proved, lib. iv. ch. 10. §. 14, &c. it is no leſs than a contradiction to ſuppoſe matter (which is evidently in its own nature void of ſenſe and thought) ſhould be that eternal firſt-thinking being. What certainty of knowledge can any one have that ſome perceptions, ſuch as, v. g. pleaſure and pain, ſhould not be in ſome bodies themſelves, after a certain manner modified and moved, as well as that they ſhould be in an immaterial ſubſtance, upon the motion of the parts of body? Body, as far as we can conceive, being able only to ſtrike and affect body; and motion, according to the utmoſt reach of our ideas, being able to produce nothing but motion: ſo that when we allow it to produce pleaſure or pain, or the idea of a colour or ſound, we are fain to quit our reaſon, go beyond our ideas, and attribute it wholly to the good pleaſure of

make uſe of, I have often had occaſion to conſider it, and cannot after all ſee the force of this argument. I acknowledge that this or that propoſition cannot upon my principles be demonſtrated; ergo, I grant this propoſition to be falſe, that certainty conſiſts in the perception of the agreement or diſagreement of ideas. For that is my ground of certainty, and till that be given up, my grounds of certainty are not given up.

our Maker. For ſince we muſt allow he has annexed effects to motion, which we can no way conceive motion able to produce, what reaſon have we to conclude, that he could not order them as well to be produced in a ſubject we cannot conceive capable of them, as well as in a ſubject we cannot conceive the motion of matter can any way operate upon? I ſay not this, that I would any way leſſen the belief of the ſoul's immateriality: I am not here ſpeaking of probability, but knowledge; and I think not only, that it becomes the modeſty of philoſophy not to pronounce magiſterially, where we want that evidence that can produce knowledge; but alſo, that it is of uſe to us to diſcern how far our knowledge does reach: for the ſtate we are at preſent in, not being that of viſion, we muſt, in many things, content ourſelves with faith and probability; and in the preſent queſtion, about the immateriality of the ſoul, if our faculties cannot arrive at demonſtrative certainty, we need not think it ſtrange. All the great ends of morality and religion are well enough ſecured, without philoſophical proofs of the ſoul's immateriality; ſince it is evident, that he who made us at the beginning to ſubſiſt here, ſenſible intelligent beings, and for ſeveral years continued us in ſuch a ſtate, can and will reſtore us to the like ſtate of ſenſibility in another world, and make us capable there to receive the retribution he has deſigned to men, according to their doings in this life. And therefore it is not of ſuch mighty neceſſity to determine one way or the other, as ſome, over-zealous for or againſt the immateriality of the ſoul, have been forward to make the world believe. Who, either on the one ſide, indulging too much their thoughts immerſed altogether in matter, can allow no exiſtence to what is not material: or who, on the other ſide, finding not cogitation within the natural powers of matter, examined over and over again by the utmoſt intention of mind, have the confidence to conclude, that omnipotency itſelf cannot give perception and thought to a ſubſtance which has the modification of ſolidity. He that conſiders how hardly ſenſation is, in our thoughts, reconcileable to extended matter; or exiſtence to any thing

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that has no exiſtence at all; will confeſs, that he is very far from certainly knowing what his ſoul is. It is a point which ſeems to me to be put out of the reach of our knowledge: and he who will give himſelf leave to conſider freely, and look into the dark and intricate part of each hypotheſis, will ſcarce find his reaſon able to determine him fixedly for or againſt the ſoul's materiality. Since on which ſide ſoever he views it, either as an unextended ſubſtance, or as a thinking extended matter; the difficulty to conceive either will, whilſt either alone is in his thoughts, ſtill drive him to the contrary ſide. An unfair way which ſome men take with themſelves; who, becauſe of the inconceiveableneſs of ſomething they find in one, throw themſelves violently into the contrary hypotheſis, though altogether as unintelligible to an unbiaſſed underſtanding. This ſerves not only to ſhew the weakneſs and the ſcantineſs of our knowledge, but the inſignificant triumph of ſuch ſort of arguments, which, drawn from our own views, may ſatisfy us that we can find no certainty on one ſide of the queſtion; but do not at all thereby help us to truth by running into the oppoſite opinion, which, on examination, will be found clogged with equal difficulties. For what ſafety, what advantage to any one is it, for the avoiding the ſeeming abſurdities, and to him unſurmountable rubs he meets with in one opinion, to take refuge in the contrary, which is built on ſomething altogether as inexplicable, and as far remote from his comprehenſion? It is paſt controverſy, that we have in us ſomething that thinks; our very doubts about what it is confirm the certainty of its being, though we muſt content ourſelves in the ignorance of what kind of being it is: and it is in vain to go about to be ſceptical in this, as it is unreaſonable in moſt other caſes to be poſitive againſt the being of any thing, becauſe we cannot comprehend its nature. For I would fain know what ſubſtance exiſts, that has not ſomething in it which manifeſtly baffles our underſtandings. Other ſpirits, who ſee and know the nature and inward conſtitution of things, how much muſt they exceed us in knowledge? To which if we add larger comprehenſion, which enables

bles them at one glance to ſee the connexion and agreement of very many ideas, and readily ſupplies to them the intermediate proofs, which we by ſingle and ſlow ſteps, and long poring in the dark, hardly at laſt find out, and are often ready to forget one before we have hunted out another; we may gueſs at ſome part of the happineſs of ſuperior ranks of ſpirits, who have a quicker and more penetrating ſight, as well as a larger field of knowledge. But to return to the argument in hand; our knowledge, I ſay, is not only limited to the paucity and imperfections of the ideas we have, and which we employ it about, but even comes ſhort of that too. But how far it reaches, let us now inquire.

How far our knowledge reaches.

§. 7. The affirmations or negations we make concerning the ideas we have, may, as I have before intimated in general, be reduced to theſe four ſorts, viz. identity, co-exiſtence, relation, and real exiſtence. I ſhall examine how far our knowledge extends in each of theſe.

1. Our knowledge of identity and diverſity, as far as our ideas.

§. 8. Firſt, as to identity and diverſity, in this way of agreement or diſagreement of our ideas, our intuitive knowledge is as far extended as our ideas themſelves: and there can be no idea in the mind, which it does not preſently, by an intuitive knowledge, perceive to be what it is, and to be different from any other.

2. Of co-exiſtence, a very little way.

§. 9. Secondly, as to the ſecond ſort, which is the agreement or diſagreement of our ideas in co-exiſtence; in this our knowledge is very ſhort, though in this conſiſts the greateſt and moſt material part of our knowledge concerning ſubſtances. For our ideas of the ſpecies of ſubſtances being, as I have ſhowed, nothing but certain collections of ſimple ideas united in one ſubject, and ſo co-exiſting together; v. g. our idea of flame is a body hot, luminous, and moving upward; of gold, a body heavy to a certain degree, yellow, malleable, and fuſible: theſe, or ſome ſuch complex ideas as theſe in men's *minds*, do theſe two names of the different ſubſtances, *flame and gold*, ſtand for. When we would know any

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thing farther concerning theſe, or any other ſort of ſubſtances, what do we inquire, but what other qualities or power theſe ſubſtances have or have not? Which is nothing elſe but to know what other ſimple ideas do or do not co-exiſt with thoſe that make up that complex idea.

Becauſe the connexion between moſt ſimple ideas is unknown.

§. 10. This, how weighty and conſiderable a part ſoever of human ſcience, is yet very narrow, and ſcarce any at all. The reaſon whereof is, that the ſimple ideas, whereof our complex ideas of ſubſtances are made up, are, for the moſt part, ſuch as carry with them, in their own nature, no viſible neceſſary connexion or inconſiſtency with any other ſimple ideas, whoſe co-exiſtence with them we would inform ourſelves about.

Eſpecially of ſecondary qualities.

§. 11. The ideas that our complex ones of ſubſtances are made up of, and about which our knowledge concerning ſubſtances is moſt employed, are thoſe of their ſecondary qualities: which depending all (as has been ſhown) upon the primary qualities of their minute and inſenſible parts; or if not upon them, upon ſomething yet more remote from our comprehenſion; it is impoſſible we ſhould know which have a neceſſary union or inconſiſtency one with another: for not knowing the root they ſpring from, not knowing what ſize, figure, and texture of parts they are, on which depend, and from which reſult, thoſe qualities which make our complex idea of gold; it is impoſſible we ſhould know what other qualities reſult from, or are incompatible with, the ſame conſtitution of the inſenſible parts of gold, and ſo conſequently muſt always co-exiſt with that complex idea we have of it, or elſe are inconſiſtent with it.

Becauſe all connexion between any ſecondary and primary qualities is undiſcoverable.

§. 12. Beſides this ignorance of the primary qualities of the inſenſible parts of bodies, on which depend all their ſecondary qualities, there is yet another and more incurable part of ignorance, which ſets us more remote from a certain knowledge of *the co-exiſtence* or in-co-exiſtence (if I may

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ſo ſay) of different ideas in the ſame ſubject; and that is, that there is no diſcoverable connexion between any ſecondary quality and thoſe primary qualities which it depends on.

§. 13. That the ſize, figure, and motion of one body ſhould cauſe a change in the ſize, figure, and motion of another body, is not beyond our conception; the ſeparation of the parts of one body upon the intruſion of another; and the change from reſt to motion upon impulſe; theſe and the like ſeem to have ſome connexion one with another. And if we knew theſe primary qualities of bodies, we might have reaſon to hope we might be able to know a great deal more of theſe operations of them one with another: but our minds not being able to diſcover any connexion betwixt theſe primary qualities of bodies and the ſenſations that are produced in us by them, we can never be able to eſtabliſh certain and undoubted rules of the conſequences or co-exiſtence of any ſecondary qualities, though we could diſcover the ſize, figure, or motion of thoſe inviſible parts which immediately produce them. We are ſo far from knowing what figure, ſize, or motion of parts produce a yellow colour, a ſweet taſte, or a ſharp ſound, that we can by no means conceive how any ſize, figure, or motion of any particles, can poſſibly produce in us the idea of any colour, taſte, or ſound whatſoever; there is no conceivable connexion betwixt the one and the other.

§. 14. In vain therefore ſhall we endeavour to diſcover by our ideas (the only true way of certain and univerſal knowledge) what other ideas are to be found conſtantly joined with that of our complex idea of any ſubſtance: ſince we neither know the real conſtitution of the minute parts on which their qualities do depend; nor, did we know them, could we diſcover any neceſſary connexion between them and any of the ſecondary qualities: which is neceſſary to be done before we can certainly know their neceſſary co-exiſtence. So that let our complex idea of any ſpecies of ſubſtances be what it will, we can hardly, from the ſimple ideas contained in it, certainly determine the neceſſary co-exiſtence of any other quality whatſoever. Our knowledge

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in all theſe inquiries reaches very little farther than our experience. Indeed, ſome few of the primary qualities have a neceſſary dependence and viſible connexion one with another, as figure neceſſarily ſuppoſes extenſion; receiving or communicating motion by impulſe, ſuppoſes ſolidity. But though theſe and perhaps ſome other of our ideas have, yet there are ſo few of them, that have a viſible connexion one with another, that we can by intuition or demonſtration diſcover the co-exiſtence of very few of the qualities are to be found united in ſubſtances: and we are left only to the aſſiſtance of our ſenſes, to make known to us what qualities they contain. For of all the qualities that are co-exiſtent in any ſubject, without this dependence and evident connexion of their ideas one with another, we cannot know certainly any two to co-exiſt any farther than experience, by our ſenſes, informs us. Thus though we ſee the yellow colour, and upon trial find the weight, malleableneſs, fuſibility, and fixedneſs, that are united in a piece of gold; yet becauſe no one of theſe ideas has any evident dependence, or neceſſary connexion with the other, we cannot certainly know, that where any four of theſe are, the fifth will be there alſo, how highly probable ſoever it may be; becauſe the higheſt probability amounts not to certainty, without which there can be no true knowledge. For this co-exiſtence can be no farther known than it is perceived; and it cannot be perceived but either in particular ſubjects, by the obſervation of our ſenſes, or, in general, by the neceſſary connexion of the ideas themſelves.

Of repugnancy to co-exiſt, larger.

§. 15. As to the incompatibility or repugnancy to co-exiſtence we may know, that any ſubject may have of each ſort of primary qualities but one particular at once; v. g. each particular extenſion, figure, number of parts, motion, excludes all other of each kind. The like alſo is certain of all ſenſible ideas peculiar to each ſenſe; for whatever of each kind is preſent in any ſubject, excludes all other of that ſort; v. g. no one ſubject can have two ſmells or two colours at the ſame time. To this perhaps will be ſaid, Has not an opal, or the infuſion of

lignum nephriticum, two colours at the ſame time? To which I anſwer, that theſe bodies, to eyes differently placed, may at the ſame time afford different colours: but I take liberty alſo to ſay, that to eyes differently placed, it is different parts of the object that reflect the particles of light: and therefore it is not the ſame part of the object, and ſo not the very ſame ſubject, which at the ſame time appears both yellow and azure. For it is as impoſſible that the very ſame particle of any body ſhould at the ſame time differently modify or reflect the rays of light, as that it ſhould have two different figures and textures at the ſame time.

Of the co-exiſtence of powers, a very little way.

§. 16. But as to the powers of ſubſtances to change the ſenſible qualities of other bodies, which make a great part of our inquiries about them, and is no inconſiderable branch of our knowledge; I doubt, as to theſe, whether our knowledge reaches much farther than our experience; or whether we can come to the diſcovery of moſt of theſe powers, and be certain that they are in any ſubject, by the connexion with any of thoſe ideas which to us make its eſſence. Becauſe the active and paſſive powers of bodies, and their ways of operating, conſiſting in a texture and motion of parts, which we cannot by any means come to diſcover; it is but in very few caſes, we can be able to perceive their dependence on, or repugnance to, any of thoſe ideas which make our complex one of that ſort of things. I have here inſtanced in the corpuſcularian hypotheſis, as that which is thought to go fartheſt in an intelligible explication of thoſe qualities of bodies; and I fear the weakneſs of human underſtanding is ſcarce able to ſubſtitute another, which will afford us a fuller and clearer diſcovery of the neceſſary connexion and co-exiſtence of the powers which are to be obſerved united in ſeveral ſorts of them. This at leaſt is certain, that which-ever hypotheſis be cleareſt and trueſt, (for of that it is not my buſineſs to determine) our knowledge concerning corporeal ſubſtances will be very little advanced by any of them, till we are made to ſee what qualities and *powers of* bodies have a neceſſary connexion or repug-

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nancy one with another; which in the preſent ſtate of philoſophy, I think, we know but to a very ſmall degree: and I doubt whether, with thoſe faculties we have, we ſhall ever be able to carry our general knowledge (I ſay not particular experience) in this part much farther. Experience is that which in this part we muſt depend on. And it were to be wiſhed that it were more improved. We find the advantages ſome men's generous pains have this way brought to the ſtock of natural knowledge. And if others, eſpecially the philoſophers by fire, who pretend to it, had been ſo wary in their obſervations, and ſincere in their reports, as thoſe who call themſelves philoſophers ought to have been; our acquaintance with the bodies here about us, and our inſight into their powers and operations, had been yet much greater.

Of ſpirits, yet narrower.

§. 17. If we are at a loſs in reſpect of the powers and operations of bodies, I think it is eaſy to conclude, we are much more in the dark in reference to the ſpirits; whereof we naturally have no ideas, but what we draw from that of our own, by reflecting on the operations of our own ſouls within us, as far as they can come within our obſervation. But how inconſiderable a rank the ſpirits that inhabit our bodies hold amongſt thoſe various and poſſible innumerable kinds of nobler beings; and how far ſhort they come of the endowments and perfections of cherubims and ſeraphims, and infinite ſorts of ſpirits above us; is what by a tranſient hint, in another place, I have offered to my reader's conſideration.

3. Of other relations, it is not eaſy to ſay how far.

§. 18. As to the third ſort of our knowledge, viz. the agreement or diſagreement of any of our ideas in any other relation: this, as it is the largeſt field of our knowledge, ſo it is hard to determine how far it may extend; becauſe the advances that are made in this part of knowledge, depending on our ſagacity in finding intermediate ideas, that may ſhow the relations and habitudes of ideas, whoſe co-exiſtence is not conſidered, it is a hard matter to tell when we are at an end of ſuch diſcoveries; and when reaſon has all the helps it is capable

capable of, for the finding of proofs, or examining the agreement or diſagreement of remote ideas. They that are ignorant of algebra cannot imagine the wonders in this kind are to be done by it: and what farther improvements and helps, advantageous to other parts of knowledge, the ſagacious mind of man may yet find out, it is not eaſy to determine. This at leaſt I believe, that the ideas of quantity are not thoſe alone that are capable of demonſtration and knowledge; and that other, and perhaps more uſeful parts of contemplation, would afford us certainty, if vices, paſſions, and domineering intereſt did not oppoſe or menace ſuch endeavours.

Morality capable of demonſtration.

The idea of a ſupreme being, infinite in power, goodneſs, and wiſdom, whoſe workmanſhip we are, and on whom we depend; and the idea of ourſelves, as underſtanding rational beings; being ſuch as are clear in us, would, I ſuppoſe, if duly conſidered and purſued, afford ſuch foundations of our duty and rules of action, as might place morality amongſt the ſciences capable of demonſtration: wherein I doubt not but from ſelf-evident propoſitions, by neceſſary conſequences, as inconteſtable as thoſe in mathematicks, the meaſures of right and wrong might be made out to any one that will apply himſelf with the ſame indifferency and attention to the one, as he does to the other of theſe ſciences. The relation of other modes may certainly be perceived, as well as thoſe of number and extenſion: and I cannot ſee why they ſhould not alſo be capable of demonſtration, if due methods were thought on to examine or purſue their agreement or diſagreement. Where there is no property, there is no injuſtice, is a propoſition as certain as any demonſtration in Euclid: for the idea of property being a right to any thing; and the idea to which the name injuſtice is given, being the invaſion or violation of that right; it is evident, that theſe ideas being thus eſtabliſhed, and theſe names annexed to them, I can as certainly know this propoſition to be true, as that a triangle has three angles equal to two right ones. Again, "no government allows abſolute liberty:" The *idea of* government being the eſtabliſhment of ſociety upon

upon certain rules or laws which require conformity to them; and the idea of abſolute liberty being for any one to do whatever he pleaſes; I am as capable of being certain of the truth of this propoſition, as of any in the mathematicks.

Two things have made moral ideas thought incapable of demonſtration: their complexedneſs, and want of ſenſible repreſentations.

§. 19. That which in this reſpect has given the advantage to the ideas of quantity, and made them thought more capable of certainty and demonſtration, is,

Firſt, that they can be ſet down and repreſented by ſenſible marks, which have a greater and nearer correſpondence with them than any words or ſounds whatſoever. Diagrams drawn on paper are copies of the ideas in the mind, and not liable to the uncertainty that words carry in their ſignification. An angle, circle, or ſquare, drawn in lines, lies open to the view, and cannot be miſtaken: it remains unchangeable, and may at leiſure be conſidered and examined, and the demonſtration be reviſed, and all the parts of it may be gone over more than once without any danger of the leaſt change in the ideas. This cannot be thus done in moral ideas, we have no ſenſible marks that reſemble them, whereby we can ſet them down; we have nothing but words to expreſs them by: which though, when written, they remain the ſame, yet the ideas they ſtand for may change in the ſame man; and it is very ſeldom that they are not different in different perſons.

Secondly, another thing that makes the greater difficulty in ethicks, is, that moral ideas are commonly more complex than thoſe of the figures ordinarily conſidered in mathematicks. From whence theſe two inconveniencies follow: Firſt, that their names are of more uncertain ſignification, the preciſe collection of ſimple ideas they ſtand for not being ſo eaſily agreed on, and ſo the ſign that is uſed for them in communication always, and in thinking often, does not ſteadily carry with it the ſame idea. Upon which the ſame diſorder, confuſion and error follow, as would if a man, going to demonſtrate ſomething of an heptagon, ſhould, in the diagram he took to do it, leave out one of the angles,

or by overſight make the figure with one angle more than the name ordinarily imported, or he intended it ſhould, when at firſt he thought of his demonſtration. This often happens, and is hardly avoidable in very complex moral ideas, where the ſame name being retained, one angle, i. e. one ſimple idea is left out or put in the complex one, (ſtill called by the ſame name) more at one time than another. Secondly, from the complexedneſs of theſe moral ideas, there follows another inconvenience, viz. that the mind cannot eaſily retain thoſe preciſe combinations, ſo exactly and perfectly as is neceſſary in the examination of the habitudes and correſpondencies, agreements or diſagreements, of ſeveral of them one with another; eſpecially where it is to be judged of by long deductions, and the intervention of ſeveral other complex ideas, to ſhow the agreement or diſagreement of two remote ones.

The great help againſt this which mathematicians find in diagrams and figures, which remain unalterable in their draughts, is very apparent, and the memory would often have great difficulty otherwiſe to retain them ſo exactly, whilſt the mind went over the parts of them ſtep by ſtep, to examine their ſeveral correſpondencies. And though in caſting up a long ſum either in addition, multiplication, or diviſion, every part be only a progreſſion of the mind, taking a view of its own ideas, and conſidering their agreement or diſagreement; and the reſolution of the queſtion be nothing but the reſult of the whole, made up of ſuch particulars, whereof the mind has a clear perception: yet without ſetting down the ſeveral parts by marks, whoſe preciſe ſignifications are known, and by marks that laſt and remain in view when the memory had let them go, it would be almoſt impoſſible to carry ſo many different ideas in the mind, without confounding or letting ſlip ſome parts of the reckoning, and thereby making all our reaſonings about it uſeleſs. In which caſe, the cyphers or marks help not the mind at all to perceive the agreement of any two or more numbers, their equalities or *proportions*: that the mind has only by intuition of its *own ideas* of the numbers themſelves. But the numerical

rical characters are helps to the memory, to record and retain the ſeveral ideas about which the demonſtration is made, whereby a man may know how far his intuitive knowledge, in ſurveying ſeveral of the particulars has proceeded; that ſo he may without confuſion go on to what is yet unknown, and at laſt have in one view before him the reſult of all his perceptions and reaſonings.

Remedies of thoſe difficulties.

§. 20. One part of theſe diſadvantages in moral ideas, which has made them be thought not capable of demonſtration, may in a good meaſure be remedied by definitions, ſetting down that collection of ſimple ideas, which every term ſhall ſtand for, and then uſing the terms ſteadily and conſtantly for that preciſe collection. And what methods algebra, or ſomething of that kind, may hereafter ſuggeſt, to remove the other difficulties, it is not eaſy to foretel. Confident I am, that if men would in the ſame method, and with the ſame indifferency, ſearch after moral, as they do mathematical truths, they would find them have a ſtronger connexion one with another, and a more neceſſary conſequence from our clear and diſtinct ideas, and to come nearer perfect demonſtration than is commonly imagined. But much of this is not to be expected, whilſt the deſire of eſteem, riches, or power, makes men eſpouſe the well-endowed opinions in faſhion, and then ſeek arguments either to make good their beauty, or varniſh over and cover their deformity: nothing being ſo beautiful to the eye, as truth is to the mind; nothing ſo deformed and irreconcileable to the underſtanding as a lye. For though many a man can with ſatisfaction enough own a no very handſome wife in his boſom; yet who is bold enough openly to avow, that he has eſpouſed a falſehood, and received into his breaſt ſo ugly a thing as a lye? Whilſt the parties of men cram their tenets down all men's throats, whom they can get into their power, without permitting them to examine their truth or falſehood, and will not let truth have fair play in the world, nor men the liberty to ſearch after it; what improvements can be *expected of this kind*? What greater light can be hoped

for in the moral ſciences? The ſubject part of mankind in moſt places might, inſtead thereof, with Egyptian bondage expect Egyptian darkneſs, were not the candle of the Lord ſet up by himſelf in men's minds, which it is impoſſible for the breath or power of man wholly to extinguiſh.

4. Of real exiſtence: we have an intuitive knowledge of our own; demonſtrative, of God's; ſenſitive, of ſome few other things.

§. 21. As to the fourth ſort of our knowledge, viz. of the real actual exiſtence of things, we have an intuitive knowledge of our own exiſtence; and a demonſtrative knowledge of the exiſtence of a God; of the exiſtence of any thing elſe, we have no other but a ſenſitive knowledge, which extends not beyond the objects preſent to our ſenſes.

Our ignorance great.

§. 22. Our knowledge being ſo narrow, as I have ſhowed, it will perhaps give us ſome light into the preſent ſtate of our minds, if we look a little into the dark ſide, and take a view of our ignorance: which, being infinitely larger than our knowledge, may ſerve much to the quieting of diſputes, and improvement of uſeful knowledge; if diſcovering how far we have clear and diſtinct ideas, we confine our thoughts within the contemplation of thoſe things that are within the reach of our underſtandings, and launch not out into that abyſs of darkneſs (where we have not eyes to ſee, nor faculties to perceive any thing) out of a preſumption, that nothing is beyond our comprehenſion. But to be ſatisfied of the folly of ſuch a conceit, we need not go far. He that knows any thing, knows this in the firſt place, that he need not ſeek long for inſtances of his ignorance. The meaneſt and moſt obvious things that come in our way, have dark ſides, that the quickeſt ſight cannot penetrate into. The cleareſt and moſt enlarged underſtandings of thinking men find themſelves puzzled, and at a loſs, in every particle of matter. We ſhall the leſs wonder to find it ſo, when we conſider the cauſes of our ignorance; which, from what has been ſaid, I ſuppoſe, will be found to be theſe three:

Firſt, want of ideas.

Secondly,

Secondly, want of a diſcoverable connexion between the ideas we have.

Thirdly, want of tracing and examining our ideas.

§. 23. Firſt, there are ſome things, and thoſe not a few, that we are ignorant of, for want of ideas.

Firſt, one cauſe of it want of ideas, either ſuch as we have no conception of, or ſuch as particularly we have not.

Firſt; all the ſimple ideas we have, are confined (as I have ſhown) to thoſe we receive from corporeal objects by ſenſation, and from the operations of our own minds as the objects of reflection. But how much theſe few and narrow inlets are diſproportionate to the vaſt whole extent of all beings, will not be hard to perſuade thoſe, who are not ſo fooliſh as to think their ſpan the meaſure of all things. What other ſimple ideas it is poſſible the creatures in other parts of the univerſe may have, by the aſſiſtance of ſenſes and faculties more, or perfecter, than we have, or different from ours, it is not for us to determine. But to ſay, or think there are no ſuch, becauſe we conceive nothing of them, is no better an argument, than if a blind man ſhould be poſitive in it, that there was no ſuch thing as ſight and colours, becauſe he had no manner of idea of any ſuch thing, nor could by any means frame to himſelf any notions about ſeeing. The ignorance and darkneſs that is in us, no more hinders nor confines the knowledge that is in others, than the blindneſs of a mole is an argument againſt the quickſightedneſs of an eagle. He that will conſider the infinite power, wiſdom, and goodneſs of the Creator of all things, will find reaſon to think it was not all laid out upon ſo inconſiderable, mean, and impotent a creature, as he will find man to be; who, in all probability, is one of the loweſt of all intellectual beings. What faculties therefore other ſpecies of creatures have, to penetrate into the nature and inmoſt conſtitutions of things; what ideas they may receive of them, far different from ours; we know not. This we know, and certainly find, that we want ſeveral other views of them, beſides thoſe we have, to make diſcoveries of them more perfect. And we may be convinced that the ideas we can attain to by our faculties,

are very diſproportionate to things themſelves, when a poſitive, clear, diſtinct one of ſubſtance itſelf, which is the foundation of all the reſt, is concealed from us. But want of ideas of this kind being a part, as well as cauſe of our ignorance, cannot be deſcribed. Only this, I think, I may confidently ſay of it, that the intellectual and ſenſible world are in this perfectly alike; that that part, which we ſee of either of them, holds no proportion with what we ſee not; and whatſoever we can reach with our eyes, or our thoughts, of either of them, is but a point, almoſt nothing in compariſon of the reſt.

Becauſe of their remoteneſs; or,

§. 24. Secondly, another great cauſe of ignorance is the want of ideas we are capable of. As the want of ideas, which our faculties are not able to give us, ſhuts us wholly from thoſe views of things, which it is reaſonable to think other beings, perfecter than we, have, of which we know nothing; ſo the want of ideas I now ſpeak of keeps us in ignorance of things we conceive capable of being known to us. Bulk, figure, and motion, we have ideas of. But though we are not without ideas of theſe primary qualities of bodies in general, yet not knowing what is the particular bulk, figure, and motion, of the greateſt part of the bodies of the univerſe; we are ignorant of the ſeveral powers, efficacies, and ways of operation, whereby the effects, which we daily ſee, are produced. Theſe are hid from us in ſome things, by being too remote; and in others, by being too minute. When we conſider the vaſt diſtance of the known and viſible parts of the world, and the reaſons we have to think, that what lies within our ken is but a ſmall part of the univerſe, we ſhall then diſcover an huge abyſs of ignorance. What are the particular fabricks of the great maſſes of matter, which make up the whole ſtupendous frame of corporeal beings, how far they are extended, what is their motion, and how continued or communicated, and what influence they have one upon another, are contemplations that at firſt glimpſe our thoughts loſe themſelves in. If we narrow our contemplations, and confine our thoughts to this little canton, I mean this ſyſtem of our ſun, and the groſſer

groſſer maſſes of matter, that viſibly move about it; what ſeveral ſorts of vegetables, animals, and intellectual corporeal beings, infinitely different from thoſe of our little ſpot of earth, may there probably be in the other planets, to the knowledge of which, even of their outward figures and parts, we can no way attain, whilſt we are confined to this earth; there being no natural means, either by ſenſation or reflection, to convey their certain ideas into our minds? They are but of the reach of thoſe inlets of all our knowledge: and what ſorts of furniture and inhabitants thoſe manſions contain in them, we cannot ſo much as gueſs, much leſs have clear and diſtinct ideas of them.

Becauſe of their minuteneſs.

§. 25. If a great, nay, far the greateſt part of the ſeveral ranks of bodies in the univerſe, eſcape our notice by their remoteneſs, there are others that are no leſs concealed from us by their minuteneſs. Theſe inſenſible corpuſcles being the active parts of matter, and the great inſtruments of nature, on which depend not only all their ſecondary qualities, but alſo moſt of their natural operations; our want of preciſe diſtinct ideas of their primary qualities, keeps us in an incurable ignorance of what we deſire to know about them. I doubt not but if we could diſcover the figure, ſize, texture, and motion of the minute conſtituent parts of any two bodies, we ſhould know without trial ſeveral of their operations one upon another, as we do now the properties of a ſquare or a triangle. Did we know the mechanical affections of the particles of rhubarb, hemlock, opium, and a man; as a watch-maker does thoſe of a watch, whereby it performs its operations, and of a file which by rubbing on them will alter the figure of any of the wheels; we ſhould be able to tell before-hand, that rhubarb will purge, hemlock kill, and opium make a man ſleep; as well as a watch-maker can, that a little piece of paper laid on the balance will keep the watch from going, till it be removed; or that, ſome ſmall part of it being rubbed by a file, the machine would quite loſe its motion, and the watch go no more. The diſſolving of ſilver in aqua fortis, and gold in aqua regia, and not vice verſa,

would be then perhaps no more difficult to know, than it is to a ſmith to underſtand why the turning of one key will open a lock, and not the turning of another. But whilſt we are deſtitute of ſenſes acute enough to diſcover the minute particles of bodies, and to give us ideas of their mechanical affections, we muſt be content to be ignorant of their properties and ways of operation; nor can we be aſſured about them any farther, than ſome few trials we make are able to reach. But whether they will ſucceed again another time, we cannot be certain. This hinders our certain knowledge of univerſal truths concerning natural bodies: and our reaſon carries us herein very little beyond particular matter of fact.

Hence no ſcience of bodies.

§. 26. And therefore I am apt to doubt, that how far ſoever human induſtry may advance uſeful and experimental philoſophy in phyſical things, ſcientifical will ſtill be out of our reach; becauſe we want perfect and adequate ideas of thoſe very bodies which are neareſt to us, and moſt under our command. Thoſe which we have ranked into claſſes under names, and we think ourſelves beſt acquainted with, we have but very imperfect and incomplete ideas of. Diſtinct ideas of the ſeveral ſorts of bodies that fall under the examination of our ſenſes perhaps we may have: but adequate ideas, I ſuſpect, we have not of any one amongſt them. And though the former of theſe will ſerve us for common uſe and diſcourſe, yet whilſt we want the latter, we are not capable of ſcientifical knowledge; nor ſhall ever be able to diſcover general, inſtructive, unqueſtionable truths concerning them. Certainty and demonſtration are things we muſt not, in theſe matters, pretend to. By the colour, figure, taſte, and ſmell, and other ſenſible qualities, we have as clear and diſtinct ideas of ſage and hemlock, as we have of a circle and a triangle: but having no ideas of the particular primary qualities of the minute parts of either of theſe plants, nor of other bodies which we would apply them to, we cannot tell what effects they will produce; nor when we ſee thoſe effects, can *we ſo much* as gueſs, much leſs know, their manner of pro-

production. Thus having no ideas of the particular mechanical affections of the minute parts of bodies that are within our view and reach, we are ignorant of their conſtitutions, powers, and operations: and of bodies more remote we are yet more ignorant, not knowing ſo much as their very outward ſhapes, or the ſenſible and groſſer parts of their conſtitutions.

Much leſs of ſpirits.

§. 27. This, at firſt, will ſhow us how diſproportionate our knowledge is to the whole extent even of material beings; to which if we add the conſideration of that infinite number of ſpirits that may be, and probably are, which are yet more remote from our knowledge, whereof we have no cognizance, nor can frame to ourſelves any diſtinct ideas of their ſeveral ranks and ſorts, we ſhall find this cauſe of ignorance conceal from us, in an impenetrable obſcurity, almoſt the whole intellectual world; a greater certainly, and more beautiful world than the material. For bating ſome very few, and thoſe, if I may ſo call them, ſuperficial ideas of ſpirit, which by reflection we get of our own, and from thence the beſt we can collect of the father of all ſpirits, the eternal independent author of them and us and all things; we have no certain information, ſo much as of the exiſtence of other ſpirits, but by revelation. Angels of all ſorts are naturally beyond our diſcovery: and all thoſe intelligences whereof it is likely there are more orders than of corporeal ſubſtances, are things whereof our natural faculties give us no certain account at all. That there are minds and thinking beings in other men as well as himſelf, every man has a reaſon, from their words and actions, to be ſatisfied: and the knowledge of his own mind cannot ſuffer a man, that conſiders, to be ignorant, that there is a God. But that there are degrees of ſpiritual beings between us and the great God, who is there that by his own ſearch and ability can come to know? Much leſs have we diſtinct ideas of their different natures, conditions, ſtates, powers, and ſeveral conſtitutions, wherein they agree or differ from one another, and from us. And therefore in what concerns their different ſpecies and properties, we are under an abſolute ignorance.

§. 28.

Secondly, want of a diſcoverable connexion between ideas we have.

§. 28. Secondly, what a ſmall part of the ſubſtantial beings that are in the univerſe, the want of ideas leaves open to our knowledge, we have ſeen. In the next place, another cauſe of ignorance, of no leſs moment, is a want of a diſcoverable connexion between thoſe ideas we have. For wherever we want that, we are utterly incapable of univerſal and certain knowledge; and are, in the former caſe, left only to obſervation and experiment: which, how narrow and confined it is, how far from general knowledge, we need not be told. I ſhall give ſome few inſtances of this cauſe of our ignorance, and ſo leave it. It is evident that the bulk, figure, and motion of ſeveral bodies about us, produce in us ſeveral ſenſations, as of colours, ſounds, taſtes, ſmells, pleaſure and pain, &c. Theſe mechanical affections of bodies having no affinity at all with thoſe ideas they produce in us (there being no conceivable connexion between any impulſe of any ſort of body and any perception of a colour or ſmell, which we find in our minds) we can have no diſtinct knowledge of ſuch operations beyond our experience; and can reaſon no otherwiſe about them, than as effects produced by the appointment of an infinitely wiſe agent, which perfectly ſurpaſs our comprehenſions. As the ideas of ſenſible ſecondary qualities which we have in our minds, can by us be no way deduced from bodily cauſes, nor any correſpondence or connexion be found between them and thoſe primary qualities which (experience ſhows us) produce them in us; ſo on the other ſide, the operation of our minds upon our bodies is as inconceivable. How any thought ſhould produce a motion in body is as remote from the nature of our ideas, as how any body ſhould produce any thought in the mind. That it is ſo, if experience did not convince us, the conſideration of the things themſelves would never be able in the leaſt to diſcover to us. Theſe, and the like, though they have a conſtant and regular connexion, in the ordinary courſe of things; yet that connexion being not diſcoverable in the ideas themſelves, which appearing to have no neceſſary dependence one on another, we

can

can attribute their connexion to nothing elſe but the arbitrary determination of that all-wiſe agent, who has made them to be, and to operate as they do, in a way wholly above our weak underſtandings to conceive.

§. 29. In ſome of our ideas there are certain relations, habitudes, and connexions, ſo viſibly included in the nature of the ideas themſelves, that we cannot conceive them ſeparable from them by any power whatſoever. And in theſe only we are capable of certain and univerſal knowledge. Thus the idea of a right-lined triangle neceſſarily carries with it an equality of its angles to two right ones. Nor can we conceive this relation, this connexion of theſe two ideas, to be poſſibly mutable, or to depend on any arbitrary power, which of choice made it thus, or could make it otherwiſe. But the coherence and continuity of the parts of matter; the production of ſenſation in us of colours and ſounds, &c. by impulſe and motion; nay, the original rules and communication of motion being ſuch, wherein we can diſcover no natural connexion with any ideas we have; we cannot but aſcribe them to the arbitrary will and good pleaſure of the wiſe architect. I need not, I think, here mention the reſurrection of the dead, the future ſtate of this globe of earth, and ſuch other things, which are by every one acknowledged to depend wholly on the determination of a free agent. The things that, as far as our obſervation reaches, we conſtantly find to proceed regularly, we may conclude do act by a law ſet them; but yet by a law, that we know not: whereby, though cauſes work ſteadily, and effects conſtantly flow from them, yet their connexions and dependencies being not diſcoverable in our ideas, we can have but an experimental knowledge of them. From all which it is eaſy to perceive what a darkneſs we are involved in, how little it is of being, and the things that are, that we are capable to know. And therefore we ſhall do no injury to our knowledge, when we modeſtly think with ourſelves, that we are ſo far from being able to comprehend the whole nature of the univerſe, and all the things contained in it, that we are not capable of a philoſophical knowledge of the

Inſtances.

bodies

bodies that are about us, and make a part of us: concerning their ſecondary qualities, powers, and operations, we can have no univerſal certainty. Several effects come every day within the notice of our ſenſes, of which we have ſo far ſenſitive knowledge; but the cauſes, manner, and certainty of their production, for the two foregoing reaſons, we muſt be content to be very ignorant of. In theſe we can go no farther than particular experience informs us of matter of fact, and by analogy to gueſs what effects the like bodies are, upon other trials, like to produce. But as to a perfect ſcience of natural bodies (not to mention ſpiritual beings) we are, I think, ſo far from being capable of any ſuch thing, that I conclude it loſt labour to ſeek after it.

Thirdly, want of tracing our ideas.

§. 30. Thirdly, where we have adequate ideas, and where there is a certain and diſcoverable connexion between them, yet we are often ignorant, for want of tracing thoſe ideas which we have, or may have; and for want of finding out thoſe intermediate ideas, which may ſhow us what habitude of agreement or diſagreement they have one with another. And thus many are ignorant of mathematical truths, not out of any imperfection of their faculties, or uncertainty in the things themſelves; but for want of application in acquiring, examining, and by due ways comparing thoſe ideas. That which has moſt contributed to hinder the due tracing of our ideas, and finding out their relations, and agreements or diſagreements one with another, has been, I ſuppoſe, the ill uſe of words. It is impoſſible that men ſhould ever truly ſeek, or certainly diſcover the agreement or diſagreement of ideas themſelves, whilſt their thoughts flutter about, or ſtick only in ſounds of doubtful and uncertain ſignifications. Mathematicians abſtracting their thoughts from names, and accuſtoming themſelves to ſet before their minds the ideas themſelves that they would conſider, and not ſounds inſtead of them, have avoided thereby a great part of that perplexity, puddering, and confuſion, which has ſo much hindered men's progreſs in other parts of knowledge. For whilſt they ſtick in words of undetermined and uncertain ſignification,

tion, they are unable to diſtinguiſh true from falſe, certain from probable, conſiſtent from inconſiſtent, in their own opinions. This having been the fate or misfortune of a great part of men of letters, the increaſe brought into the ſtock of real knowledge, has been very little, in proportion to the ſchools, diſputes, and writings, the world has been filled with; whilſt ſtudents being loſt in the great wood of words, knew not whereabout they were, how far their diſcoveries were advanced, or what was wanting in their own or the general ſtock of knowledge. Had men, in the diſcoveries of the material, done as they have in thoſe of the intellectual world, involved all in the obſcurity of uncertain and doubtful ways of talking, volumes writ of navigation and voyages, theories and ſtories of zones and tides, multiplied and diſputed; nay, ſhips built, and fleets ſent out, would never have taught us the way beyond the line; and the Antipodes would be ſtill as much unknown, as when it was declared hereſy to hold there were any. But having ſpoken ſufficiently of words, and the ill or careleſs uſe that is commonly made of them, I ſhall not ſay any thing more of it here.

Extent in reſpect to univerſality.

§. 31. Hitherto we have examined the extent of our knowledge, in reſpect of the ſeveral ſorts of beings that are. There is another extent of it, in reſpect of univerſality, which will alſo deſerve to be conſidered; and in this regard, our knowledge follows the nature of our ideas. If the ideas are abſtract, whoſe agreement or diſagreement we perceive, our knowledge is univerſal. For what is known of ſuch general ideas, will be true of every particular thing, in whom that eſſence, i. e. that abſtract idea is to be found; and what is once known of ſuch ideas, will be perpetually and for ever true. So that as to all general knowledge, we muſt ſearch and find it only in our minds, and it is only the examining of our own ideas, that furniſheth us with that. Truths belonging to eſſences of things, (that is, to abſtract ideas) are eternal, and are to be found out by the contemplation only of thoſe eſſences: as the exiſtences of things are to be known only from experience. But having more

more to ſay of this in the chapters where I ſhall ſpeak of general and real knowledge, this may here ſuffice as to the univerſality of our knowledge in general.

CHAP. IV.

Of the Reality of Knowledge.

Objection. Knowledge placed in ideas may be all bare viſion.

§. 1. I DOUBT not but my reader by this time may be apt to think, that I have been all this while only building a caſtle in the air; and be ready to ſay to me, "To what purpoſe all this ſtir? Know- "ledge, ſay you, is only the perception of "the agreement or diſagreement of our own ideas: but "who knows what thoſe ideas may be? Is there any "thing ſo extravagant, as the imaginations of men's "brains? Where is the head that has no chimeras in "it? Or if there be a ſober and a wiſe man, what dif- "ference will there be, by your rules, between his "knowledge and that of the moſt extravagant fancy in "the world? They both have their ideas, and perceive "their agreement and diſagreement one with another. "If there be any difference between them, the advan- "tage will be on the warm-headed man's ſide, as hav- "ing the more ideas, and the more lively: and ſo, by "your rules, he will be the more knowing. If it be "true, that all knowledge lies only in the perception "of the agreement or diſagreement of our own ideas, "the viſions of an enthuſiaſt, and the reaſonings of a "ſober man, will be equally certain. It is no matter "how things are; ſo a man obſerve but the agreement "of his own imaginations, and talk conformably, it is "all truth, all certainty. Such caſtles in the air will "be as ſtrong holds of truth, as the demonſtrations of "Euclid. That an harpy is not a centaur is by this "way as certain knowledge, and as much a truth, as "that a ſquare is not a circle.

"But

" But of what uſe is all this fine knowledge of men's " own imaginations, to a man that inquires after the " reality of things? It matters not what men's fancies " are, it is the knowledge of things that is only to be " prized; it is this alone gives a value to our reaſon- " ings, and preference to one man's knowledge over " another's, that it is of things as they really are, and " not of dreams and fancies."

Anſw. Not ſo, where ideas agree with things.

§. 2. To which I anſwer, that if our knowledge of our ideas terminate in them, and reach no farther, where there is ſomething farther intended, our moſt ſerious thoughts will be of little more uſe, than the reveries of a crazy brain; and the truths built thereon of no more weight, than the diſcourſes of a man, who ſees things clearly in a dream, and with great aſſurance utters them. But, I hope, before I have done, to make it evident, that this way of certainty, by the knowledge of our own ideas, goes a little farther than bare imagination: and I believe it will appear, that all the certainty of general truths a man has, lies in nothing elſe.

§. 3. It is evident, the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge therefore is real, only ſo far as there is a conformity between our ideas and the reality of things. But what ſhall be here the criterion? How ſhall the mind, when it perceives nothing but its own ideas, know that they agree with things themſelves? This, though it ſeems not to want difficulty, yet, I think, there be two ſorts of ideas, that, we may be aſſured, agree with things.

As, 1. All ſimple ideas do.

§. 4. Firſt, the firſt are ſimple ideas, which ſince the mind, as has been ſhowed, can by no means make to itſelf, muſt neceſſarily be the product of things operating on the mind in a natural way, and producing therein thoſe perceptions which by the wiſdom and will of our maker they are ordained and adapted to. From whence it follows, that ſimple ideas are not fictions of our fancies, but the natural and regular productions of things without us, really operating upon us, and ſo carry with them all the con-

conformity which is intended, or which our ſtate requires: for they repreſent to us things under thoſe appearances which they are fitted to produce in us, whereby we are enabled to diſtinguiſh the ſorts of particular ſubſtances, to diſcern the ſtates they are in, and ſo to take them for our neceſſities, and to apply them to our uſes. Thus the idea of whiteneſs, or bitterneſs, as it is in the mind, exactly anſwering that power which is in any body to produce it there, has all the real conformity it can, or ought to have, with things without us. And this conformity between our ſimple ideas, and the exiſtence of things, is ſufficient for real knowledge.

2. All complex ideas, except of ſubſtances.

§. 5. Secondly, all our complex ideas, except thoſe of ſubſtances, being archetypes of the mind's own making, not intended to be the copies of any thing, nor referred to the exiſtence of any thing, as to their originals; cannot want any conformity neceſſary to real knowledge. For that which is not deſigned to repreſent any thing but itſelf, can never be capable of a wrong repreſentation, nor miſlead us from the true apprehenſion of any thing, by its diſlikeneſs to it; and ſuch, excepting thoſe of ſubſtances, are all our complex ideas: which, as I have ſhowed in another place, are combinations of ideas, which the mind, by its free choice, puts together, without conſidering any connexion they have in nature. And hence it is, that in all theſe ſorts the ideas themſelves are conſidered as the archetypes, and things no otherwiſe regarded, but as they are conformable to them. So that we cannot but be infallibly certain, that all the knowledge we attain concerning theſe ideas is real, and reaches things themſelves; becauſe in all our thoughts, reaſonings, and diſcourſes of this kind, we intend things no farther than as they are conformable to our ideas. So that in theſe we cannot miſs of a certain and undoubted reality.

Hence the reality of mathematical knowledge.

§. 6. I doubt not but it will be eaſily granted, that the knowledge we have of mathematical truths, is not only certain, but real knowledge; and not the bare empty viſion of vain inſignificant chimeras of the brain: and yet

yet, if we will conſider, we ſhall find that it is only of our own ideas. The mathematician conſiders the truth and properties belonging to a rectangle, or circle, only as they are in idea in his own mind. For it is poſſible he never found either of them exiſting mathematically, i. e. preciſely true, in his life. But yet the knowledge he has of any truths or properties belonging to a circle, or any other mathematical figure, are nevertheleſs true and certain, even of real things exiſting; becauſe real things are no farther concerned, nor intended to be meant by any ſuch propoſitions, than as things really agree to thoſe archetypes in his mind. Is it true of the idea of a triangle, that its three angles are equal to two right ones? It is true alſo of a triangle, wherever it really exiſts. Whatever other figure exiſts, that is not exactly anſwerable to the idea of a triangle in his mind, is not at all concerned in that propoſition: and therefore he is certain all his knowledge concerning ſuch ideas is real knowledge; becauſe intending things no farther than they agree with thoſe his ideas, he is ſure what he knows concerning thoſe figures, when they have barely an ideal exiſtence in his mind, will hold true of them alſo, when they have real exiſtence in matter; his conſideration being barely of thoſe figures, which are the ſame, wherever or however they exiſt.

And of moral.

§. 7. And hence it follows that moral knowledge is as capable of real certainty, as mathematicks. For certainty being but the perception of the agreement or diſagreement of our ideas; and demonſtration nothing but the perception of ſuch agreement, by the intervention of other ideas, or mediums; our moral ideas, as well as mathematical, being archetypes themſelves, and ſo adequate and complete ideas; all the agreement or diſagreement, which we ſhall find in them, will produce real knowledge, as well as in mathematical figures.

Exiſtence not required to make it real.

§. 8. For the attaining of knowledge and certainty, it is requiſite that we have determined ideas; and, to make our knowledge real, it is requiſite that the ideas anſwer their archetypes. Nor let it be wondered, that I place the

certainty of our knowledge in the conſideration of our ideas, with ſo little care and regard (as it may ſeem) to the real exiſtence of things: ſince moſt of thoſe diſcourſes, which take up the thoughts, and engage the diſputes of thoſe who pretend to make it their buſineſs to inquire after truth and certainty, will, I preſume, upon examination be found to be general propoſitions, and notions in which exiſtence is not at all concerned. All the diſcourſes of the mathematicians about the ſquaring of a circle, conick ſections, or any other part of mathematicks, concern not the exiſtence of any of thoſe figures; but their demonſtrations, which depend on their ideas, are the ſame, whether there be any ſquare or circle exiſting in the world, or no. In the ſame manner, the truth and certainty of moral diſcourſes abſtracts from the lives of men, and the exiſtence of thoſe virtues in the world whereof they treat. Nor are Tully's offices leſs true, becauſe there is no-body in the world that exactly practiſes his rules, and lives up to that pattern of a virtuous man which he has given us, and which exiſted no where, when he writ, but in idea. If it be true in ſpeculation, i. e. in idea, that murder deſerves death, it will alſo be true in reality of any action that exiſts conformable to that idea of murder. As for other actions, the truth of that propoſition concerns them not. And thus it is of all other ſpecies of things, which have no other eſſences but thoſe ideas, which are in the minds of men.

Nor will it be leſs true or certain, becauſe moral ideas are of our own making and naming.

§. 9. But it will here be ſaid, that if moral knowledge be placed in the contemplation of our own moral ideas, and thoſe, as other modes, be of our own making, what ſtrange notions will there be of juſtice and temperance? What confuſion of virtues and vices, if every one may make what ideas of them he pleaſes? No confuſion or diſorder in the things themſelves, nor the reaſonings about them; no more than (in mathematicks) there would be a diſturbance in the demonſtration, or a change in the properties of figures, and their relations one to another, if a man ſhould make a triangle with four corners, or a

trapezium with four right angles: that is, in plain Engliſh, change the names of the figures, and call that by one name, which mathematicians call ordinarily by another. For let a man make to himſelf the idea of a figure with three angles, whereof one is a right one, and call it, if he pleaſe, equilaterum or trapezium, or any thing elſe, the properties of and demonſtrations about that idea will be the ſame, as if he called it a rectangular triangle. I confeſs the change of the name, by the impropriety of ſpeech, will at firſt diſturb him, who knows not what idea it ſtands for; but as ſoon as the figure is drawn, the conſequences and demonſtration are plain and clear. Juſt the ſame is it in moral knowledge, let a man have the idea of taking from others, without their conſent, what their honeſt induſtry has poſſeſſed them of, and call this juſtice, if he pleaſe. He that takes the name here without the idea put to it, will be miſtaken, by joining another idea of his own to that name: but ſtrip the idea of that name, or take it ſuch as it is in the ſpeaker's mind, and the ſame things will agree to it, as if you called it injuſtice. Indeed wrong names in moral diſcourſes breed uſually more diſorder, becauſe they are not ſo eaſily rectified as in mathematicks, where the figure, once drawn and ſeen, makes the name uſeleſs and of no force. For what need of a ſign, when the thing ſignified is preſent and in view? But in moral names that cannot be ſo eaſily and ſhortly done, becauſe of the many decompoſitions that go to the making up the complex ideas of thoſe modes. But yet for all this, miſcalling of any of thoſe ideas, contrary to the uſual ſignification of the words of that language, hinders not but that we may have certain and demonſtrative knowledge of their ſeveral agreements and diſagreements, if we will carefully, as in mathematicks, keep to the ſame preciſe ideas, and trace them in their ſeveral relations one to another, without being led away by their names. If we but ſeparate the idea under conſideration from the ſign that ſtands for it, our knowledge goes equally on in the diſcovery of real truth and certainty, whatever ſounds we make uſe of.

Miſnaming diſturbs not the certainty of the knowledge.

§. 10. One thing more we are to take notice of, that where God, or any other law-maker, hath defined any moral names, there they have made the eſſence of that ſpecies to which that name belongs; and there it is not ſafe to apply or uſe them otherwiſe: but in other caſes it is bare impropriety of ſpeech to apply them contrary to the common uſage of the country. But yet even this too diſturbs not the certainty of that knowledge, which is ſtill to be had by a due contemplation, and comparing of thoſe even nick-named ideas.

Ideas of ſubſtances have their archetypes without us.

§. 11. Thirdly, there is another ſort of complex ideas, which being referred to archetypes without us, may differ from them, and ſo our knowledge about them may come ſhort of being real. Such are our ideas of ſubſtances, which conſiſting of a collection of ſimple ideas, ſuppoſed taken from the works of nature, may yet vary from them, by having more or different ideas united in them, than are to be found united in the things themſelves. From whence it comes to paſs, that they may, and often do, fail of being exactly conformable to things themſelves.

So far as they agree with thoſe, ſo far our knowledge concerning them is real.

§. 12. I ſay then, that to have ideas of ſubſtances, which, by being conformable to things, may afford us real knowledge, it is not enough, as in modes, to put together ſuch ideas as have no inconſiſtence, though they did never before ſo exiſt: v. g. the ideas of ſacrilege or perjury, &c. were as real and true ideas before, as after the exiſtence of any ſuch fact. But our ideas of ſubſtances being ſuppoſed copies, and referred to archetypes without us, muſt ſtill be taken from ſomething that does or has exiſted; they muſt not conſiſt of ideas put together at the pleaſure of our thoughts, without any real pattern they were taken from, though we can perceive no inconſiſtence in ſuch a combination. The reaſon whereof is, becauſe we knowing not what real conſtitution it is of ſubſtances, whereon our ſimple ideas depend, and which really is the cauſe of the ſtrict union of ſome of them one with another,

and

and the excluſion of others; there are very few of them, that we can be ſure are, or are not, inconſiſtent in nature, any farther than experience and ſenſible obſervation reach. Herein therefore is founded the reality of our knowledge concerning ſubſtances; that all our complex ideas of them muſt be ſuch, and ſuch only, as are made up of ſuch ſimple ones, as have been diſcovered to co-exiſt in nature. And our ideas being thus true: though not, perhaps, very exact copies, are yet the ſubjects of real (as far as we have any) knowledge of them. Which (as has been already ſhown) will not be found to reach very far: but ſo far as it does, it will ſtill be real knowledge. Whatever ideas we have, the agreement we find they have with others, will ſtill be knowledge. If thoſe ideas be abſtract, it will be general knowledge. But, to make it real concerning ſubſtances, the ideas muſt be taken from the real exiſtence of things. Whatever ſimple ideas have been found to co-exiſt in any ſubſtance, theſe we may with confidence join together again, and ſo make abſtract ideas of ſubſtances. For whatever have once had an union in nature, may be united again.

In our inquiries about ſubſtances, we muſt conſider ideas, and not confine our thoughts to names, or ſpecies ſuppoſed ſet out by names.

§. 13. This, if we rightly conſider, and confine not our thoughts and abſtract ideas to names, as if there were, or could be no other ſorts of things than what known names had already determined, and as it were ſet out; we ſhould think of things with greater freedom and leſs confuſion than perhaps we do. It would poſſibly be thought a bold paradox, if not a very dangerous falſehood, if I ſhould ſay, that ſome changelings, who have lived forty years together without any appearance of reaſon, are ſomething between a man and a beaſt: which prejudice is founded upon nothing elſe but a falſe ſuppoſition, that theſe two names, man and beaſt, ſtand for diſtinct ſpecies ſo ſet out by real eſſences, that there can come no other ſpecies between them: whereas if we will abſtract from thoſe names, and the ſuppoſition of ſuch ſpecifick eſſences made by nature, wherein all things of the ſame denominations did exactly and

equally partake; if we would not fancy that there were a certain number of theſe eſſences, wherein all things, as in moulds, were caſt and formed; we ſhould find that the idea of the ſhape, motion, and life of a man without reaſon, is as much a diſtinct idea, and makes as much a diſtinct ſort of things from man and beaſt, as the idea of the ſhape of an aſs with reaſon would be different from either that of man or beaſt, and be a ſpecies of an animal between, or diſtinct from both.

Objection againſt a changeling being ſomething between a man and beaſt, anſwered.

§. 14. Here every body will be ready to aſk, If changelings may be ſuppoſed ſomething between man and beaſt, pray what are they? I anſwer, changelings, which is as good a word to ſignify ſomething different from the ſignification of man or beaſt, as the names man and beaſt are to have ſignifications different one from the other. This, well conſidered, would reſolve this matter, and ſhow my meaning without any more ado. But I am not ſo unacquainted with the zeal of ſome men, which enables them to ſpin conſequences, and to ſee religion threatened whenever any one ventures to quit their forms of ſpeaking; as not to foreſee what names ſuch a propoſition as this is like to be charged with: and without doubt it will be aſked, If changelings are ſomething between man and beaſt, what will become of them in the other world? To which I anſwer, 1. It concerns me not to know or inquire. To their own maſter they ſtand or fall. It will make their ſtate neither better nor worſe, whether we determine any thing of it or no. They are in the hands of a faithful creator and a bountiful father, who diſpoſes not of his creatures according to our narrow thoughts or opinions, nor diſtinguiſhes them according to names and ſpecies of our contrivance. And we that know ſo little of this preſent world we are in, may, I think, content ourſelves without being peremptory in defining the different ſtates, which creatures ſhall come into, when they go off this ſtage. It may ſuffice us, that he hath made known to all thoſe, who are capable of inſtruction, diſcourſing, and reaſoning,

ing, that they ſhall come to an account, and receive according to what they have done in this body.

§. 15. But, ſecondly, I anſwer, the force of theſe men's queſtion (viz. will you deprive changelings of a future ſtate?) is founded on one of theſe two ſuppoſitions, which are both falſe. The firſt is, that all things that have the outward ſhape and appearance of a man muſt neceſſarily be deſigned to an immortal future being after this life: or, ſecondly, that whatever is of human birth muſt be ſo. Take away theſe imaginations, and ſuch queſtions will be groundleſs and ridiculous. I deſire then thoſe who think there is no more but an accidental difference between themſelves and changelings, the eſſence in both being exactly the ſame, to conſider whether they can imagine immortality annexed to any outward ſhape of the body? the very propoſing it, is, I ſuppoſe, enough to make them diſown it. No one yet, that ever I heard of, how much ſoever immerſed in matter, allowed that excellency to any figure of the groſs ſenſible outward parts, as to affirm eternal life due to it, or a neceſſary conſequence of it; or that any maſs of matter ſhould, after its diſſolution here, be again reſtored hereafter to an everlaſting ſtate of ſenſe, perception, and knowledge, only becauſe it was moulded into this or that figure, and had ſuch a particular frame of its viſible parts. Such an opinion as this, placing immortality in a certain ſuperficial figure, turns out of doors all conſideration of ſoul or ſpirit, upon whoſe account alone ſome corporeal beings have hitherto been concluded immortal, and others not. This is to attribute more to the outſide than inſide of things; and to place the excellency of a man more in the external ſhape of his body, than internal perfections of his ſoul: which is but little better than to annex the great and ineſtimable advantage of immortality and life everlaſting, which he has above other material beings, to annex it, I ſay, to the cut of his beard, or the faſhion of his coat. For this or that outward mark of our bodies no more carries with it the hope of an eternal duration, than the faſhion of a man's ſuit gives him reaſonable grounds to imagine it will never wear out, or that it will make him

immortal. It will perhaps be ſaid, that no-body thinks that the ſhape makes any thing immortal, but it is the ſhape is the ſign of a rational ſoul within, which is immortal. I wonder who made it the ſign of any ſuch thing: for barely ſaying it, will not make it ſo. It would require ſome proofs to perſuade one of it. No figure that I know ſpeaks any ſuch language. For it may as rationally be concluded, that the dead body of a man, wherein there is to be found no more appearance or action of life than there is in a ſtatue, has yet nevertheleſs a living ſoul in it becauſe of its ſhape; as that there is a rational ſoul in a changeling, becauſe he has the outſide of a rational creature; when his actions carry far leſs marks of reaſon with them, in the whole courſe of his life, than what are to be found in many a beaſt.

onſters. §. 16. But it is the iſſue of rational parents, and muſt therefore be concluded to have a rational ſoul. I know not by what logick you muſt ſo conclude. I am ſure this is a concluſion, that men no where allow of. For if they did, they would not make bold, as every where they do, to deſtroy ill-formed and miſ-ſhaped productions. Ay, but theſe are monſters. Let them be ſo; what will your driveling, unintelligent, intractable changeling be? Shall a defect in the body make a monſter; a defect in the mind (the far more noble, and, in the common phraſe, the far more eſſential part) not? Shall the want of a noſe, or a neck, make a monſter, and put ſuch iſſue out of the rank of men; the want of reaſon and underſtanding, not? This is to bring all back again to what was exploded juſt now: this is to place all in the ſhape, and to take the meaſure of a man only by his outſide. To ſhow that, according to the ordinary way of reaſoning in this matter, people do lay the whole ſtreſs on the figure, and reſolve the whole eſſence of the ſpecies of man (as they make it) into the outward ſhape, how unreaſonable ſoever it be, and how much ſoever they diſown it; we need but trace their thoughts and practice a little farther, and then it will plainly appear. The well-ſhaped changeling is a man, has a rational ſoul, though it appear not; this is paſt doubt, ſay you. Make the

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ears a little longer, and more pointed, and the noſe a little flatter than ordinary, and then you begin to boggle: make the face yet narrower, flatter, and longer, and then you are at a ſtand: add ſtill more and more of the likeneſs of a brute to it, and let the head be perfectly that of ſome other animal, then preſently it is a monſter; and it is demonſtration with you that it hath no rational ſoul, and muſt be deſtroyed. Where now (I aſk) ſhall be the juſt meaſure of the utmoſt bounds of that ſhape, that carries with it a rational ſoul? For ſince there have been human fœtuſes produced, half beaſt, and half man; and others three parts one, and one part the other; and ſo it is poſſible they may be in all the variety of approaches to the one or the other ſhape, and may have ſeveral degrees of mixture of the likeneſs of a man or a brute; I would gladly know what are thoſe preciſe lineaments, which, according to this hypotheſis, are, or are not capable of a rational ſoul to be joined to them. What ſort of outſide is the certain ſign that there is, or is not ſuch an inhabitant within? For till that be done, we talk at random of man: and ſhall always, I fear, do ſo, as long as we give ourſelves up to certain ſounds, and the imaginations of ſettled and fixed ſpecies in nature, we know not what. But after all, I deſire it may be conſidered, that thoſe who think they have anſwered the difficulty by telling us, that a miſſhaped fœtus is a monſter, run into the ſame fault they are arguing againſt, by conſtituting a ſpecies between man and beaſt. For what elſe, I pray, is their monſter in the caſe (if the word monſter ſignifies any thing at all) but ſomething neither man nor beaſt, but partaking ſomewhat of either? And juſt ſo is the changeling before-mentioned. So neceſſary is it to quit the common notion of ſpecies and eſſences, if we will truly look into the nature of things, and examine them, by what our faculties can diſcover in them as they exiſt, and not by groundleſs fancies, that have been taken up about them.

Words and ſpecies.

§. 17. I have mentioned this here, becauſe I think we cannot be too cautious that words and ſpecies, in the ordinary

notions

notions which we have been uſed to of them, impoſe not on us. For I am apt to think, therein lies one great obſtacle to our clear and diſtinct knowledge, eſpecially in reference to ſubſtances; and from thence has roſe a great part of the difficulties about truth and certainty. Would we accuſtom ourſelves to ſeparate our contemplations and reaſonings from words, we might, in a great meaſure, remedy this inconvenience within our own thoughts; but yet it would ſtill diſturb us in our diſcourſe with others, as long as we retained the opinion, that ſpecies and their eſſences were any thing elſe but our abſtract ideas (ſuch as they are) with names annexed to them, to be the ſigns of them.

Recapitulation.

§. 18. Wherever we perceive the agreement or diſagreement of any of our ideas, there is certain knowledge: and wherever we are ſure thoſe ideas agree with the reality of things, there is certain real knowledge. Of which agreement of our ideas, with the reality of things, having here given the marks, I think I have ſhown wherein it is, that certainty, real certainty, conſiſts: which, whatever it was to others, was, I confeſs, to me heretofore, one of thoſe deſiderata which I found great want of.

CHAP. V.

Of Truth in General.

What truth is.

§. 1. WHAT is truth was an inquiry many ages ſince; and it being that which all mankind either do, or pretend to ſearch after, it cannot but be worth our while carefully to examine wherein it conſiſts, and ſo acquaint ourſelves with the nature of it, as to obſerve how the mind diſtinguiſhes it from falſehood.

A right joining or ſeparating of ſigns, i. e. ideas or words.

§. 2. Truth then ſeems to me, in the proper import of the word, to ſignify nothing but the joining or ſeparating of ſigns, as the things ſignified by them do agree or diſagree one with another. The joining or ſepa-

ſeparating of ſigns, here meant, is what by another name we call propoſition. So that truth properly belongs only to propoſitions: whereof there are two ſorts, viz. mental and verbal; as there are two ſorts of ſigns commonly made uſe of, viz. ideas and words.

Which make mental or verbal propoſitions.

§. 3. To form a clear notion of truth, it is very neceſſary to conſider truth of thought, and truth of words, diſtinctly one from another: but yet it is very difficult to treat of them aſunder. Becauſe it is unavoidable, in treating of mental propoſitions, to make uſe of words: and then the inſtances given of mental propoſitions ceaſe immediately to be barely mental, and become verbal. For a mental propoſition being nothing but a bare conſideration of the ideas, as they are in our minds ſtripped of names, they loſe the nature of purely mental propoſitions as ſoon as they are put into words.

Mental propoſitions are very hard to be treated of.

§. 4. And that which makes it yet harder to treat of mental and verbal propoſitions ſeparately, is, that moſt men, if not all, in their thinking and reaſonings within themſelves, make uſe of words inſtead of ideas: at leaſt when the ſubject of their meditation contains in it complex ideas. Which is a great evidence of the imperfection and uncertainty of our ideas of that kind, and may, if attentively made uſe of, ſerve for a mark to ſhow us, what are thoſe things we have clear and perfect eſtabliſhed ideas of, and what not. For if we will curiouſly obſerve the way our mind takes in thinking and reaſoning, we ſhall find, I ſuppoſe, that when we make any propoſitions within our own thoughts about white or black, ſweet or bitter, a triangle or a circle, we can and often do frame in our minds the ideas themſelves, without reflecting on the names. But when we would conſider, or make propoſitions about the more complex ideas, as of a man, vitriol, fortitude, glory, we uſually put the name for the idea: becauſe the ideas theſe names ſtand for, being for the moſt part imperfect, confuſed, and undetermined, we reflect on the names themſelves, becauſe they are more clear, certain, and diſtinct, and readier occur to our thoughts than the pure ideas: and

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ſo we make uſe of theſe words inſtead of the ideas themſelves, even when we would meditate and reaſon within ourſelves, and make tacit mental propoſitions. In ſubſtances, as has been already noticed, this is occaſioned by the imperfection of our ideas: we making the name ſtand for the real eſſence, of which we have no idea at all. In modes, it is occaſioned by the great number of ſimple ideas, that go to the making them up. For many of them being compounded, the name occurs much eaſier than the complex idea itſelf, which requires time and attention to be recollected, and exactly repreſented to the mind, even in thoſe men who have formerly been at the pains to do it; and is utterly impoſſible to be done by thoſe, who, though they have ready in their memory the greateſt part of the common words of that language, yet perhaps never troubled themſelves in all their lives to conſider what preciſe ideas the moſt of them ſtood for. Some confuſed or obſcure notions have ſerved their turns, and many who talk very much of religion and conſcience, of church and faith, of power and right, of obſtructions and humours, melancholy and choler, would perhaps have little left in their thoughts and meditations, if one ſhould deſire them to think only of the things themſelves, and lay by thoſe words, with which they ſo often confound others, and not ſeldom themſelves alſo.

Being nothing but the joining or ſeparating ideas without words.

§. 5. But to return to the conſideration of truth: we muſt, I ſay, obſerve two ſorts of propoſitions that we are capable of making.

Firſt, mental, wherein the ideas in our underſtandings are without the uſe of words put together, or ſeparated by the mind, perceiving or judging of their agreement or diſagreement.

Secondly, verbal propoſitions, which are words, the ſigns of our ideas, put together or ſeparated in affirmative or negative ſentences. By which way of affirming or denying, theſe ſigns, made by ſounds, are as it were put together or ſeparated one from another. So that propoſition conſiſts in joining or ſeparating ſigns, and truth conſiſts in the putting together or ſeparating thoſe ſigns,

ſigns, according as the things, which they ſtand for, agree or diſagree.

When mental propoſitions contain real truth, and when verbal.

§. 6. Every one's experience will ſatisfy him, that the mind, either by perceiving or ſuppoſing the agreement or diſagreement of any of its ideas, does tacitly within itſelf put them into a kind of propoſition affirmative or negative, which I have endeavoured to expreſs by the terms putting together and ſeparating. But this action of the mind, which is ſo familiar to every thinking and reaſoning man, is eaſier to be conceived by reflecting on what paſſes in us when we affirm or deny, than to be explained by words. When a man has in his head the idea of two lines, viz. the ſide and diagonal of a ſquare, whereof the diagonal is an inch long, he may have the idea alſo of the diviſion of that line into a certain number of equal parts; v. g. into five, ten, an hundred, a thouſand, or any other number, and may have the idea of that inch line being diviſible, or not diviſible, into ſuch equal parts, as a certain number of them will be equal to the ſide-line. Now whenever he perceives, believes, or ſuppoſes ſuch a kind of diviſibility to agree or diſagree to his idea of that line, he, as it were, joins or ſeparates thoſe two ideas, viz. the idea of that line, and the idea of that kind of diviſibility; and ſo makes a mental propoſition, which is true or falſe, according as ſuch a kind of diviſibility, a diviſibility into ſuch aliquot parts, does really agree to that line or no. When ideas are ſo put together, or ſeparated in the mind, as they or the things they ſtand for do agree or not, that is, as I may call it, mental truth. But truth of words is ſomething more; and that is the affirming or denying of words one of another, as the ideas they ſtand for agree or diſagree: and this again is two-fold; either purely verbal and trifling, which I ſhall ſpeak of, chap. viii. or real and inſtructive, which is the object of that real knowledge which we have ſpoken of already.

Objection againſt verbal truth,

§. 7. But here again will be apt to occur the ſame doubt about truth, that did about knowledge: and it will be objected, that

that thus it may all be chimerical.

if truth be nothing but the joining and ſeparating of words in propoſitions, as the ideas they ſtand for agree or diſagree in men's minds, the knowledge of truth is not ſo valuable a thing, as it is taken to be, nor worth the pains and time men employ in the ſearch of it; ſince by this account it amounts to no more than the conformity of words to the chimeras of men's brains. Who knows not what odd notions many men's heads are filled with, and what ſtrange ideas all men's brains are capable of? But if we reſt here, we know the truth of nothing by this rule, but of the viſionary words in our own imaginations; nor have other truth, but what as much concerns harpies and centaurs, as men and horſes. For thoſe, and the like, may be ideas in our heads, and have their agreement and diſagreement there, as well as the ideas of real beings, and ſo have as true propoſitions made about them. And it will be altogether as true a propoſition to ſay all centaurs are animals, as that all men are animals; and the certainty of one as great as the other. For in both the propoſitions, the words are put together according to the agreement of the ideas in our minds: and the agreement of the idea of animal with that of centaur is as clear and viſible to the mind, as the agreement of the idea of animal with that of man; and ſo theſe two propoſitions are equally true, equally certain. But of what uſe is all ſuch truth to us?

Anſwered, real truth is about ideas agreeing to things.

§. 8. Though what has been ſaid in the foregoing chapter, to diſtinguiſh real from imaginary knowledge, might ſuffice here, in anſwer to this doubt, to diſtinguiſh real truth from chimerical, or (if you pleaſe) barely nominal, they depending both on the ſame foundation; yet it may not be amiſs here again to conſider, that though our words ſignify nothing but our ideas, yet being deſigned by them to ſignify things, the truth they contain when put into propoſitions, will be only verbal, when they ſtand for ideas in the mind, that have not an agreement with the reality of things. And therefore truth, as well as knowledge, may well come under the diſtinction of verbal and real; that being

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only verbal truth, wherein terms are joined according to the agreement or diſagreement of the ideas they ſtand for, without regarding whether our ideas are ſuch as really have, or are capable of having an exiſtence in nature. But then it is they contain real truth, when theſe ſigns are joined, as our ideas agree; and when our ideas are ſuch as we know are capable of having an exiſtence in nature: which in ſubſtances we cannot know, but by knowing that ſuch have exiſted.

Falſhood is the joining of names otherwiſe than their ideas agree.

§. 9. Truth is the marking down in words the agreement or diſagreement of ideas as it is. Falſhood is the marking down in words the agreement or diſagreement of ideas otherwiſe than it is. And ſo far as theſe ideas, thus marked by ſounds, agree to their archetypes, ſo far only is the truth real. The knowledge of this truth conſiſts in knowing what ideas the words ſtand for, and the perception of the agreement or diſagreement of thoſe ideas, according as it is marked by thoſe words.

General propoſitions to be treated of more at large.

§. 10. But becauſe words are looked on as the great conduits of truth and knowledge, and that in conveying and receiving of truth, and commonly in reaſoning about it, we make uſe of words and propoſitions; I ſhall more at large inquire, wherein the certainty of real truths, contained in propoſitions, conſiſts, and where it is to be had; and endeavour to ſhow in what ſort of univerſal propoſitions we are capable of being certain of their real truth or falſhood.

I ſhall begin with general propoſitions, as thoſe which moſt employ our thoughts, and exerciſe our contemplation. General truths are moſt looked after by the mind, as thoſe that moſt enlarge our knowledge; and by their comprehenſiveneſs, ſatisfying us at once of many particulars, enlarge our view, and ſhorten our way to knowledge.

Moral and metaphyſical truth.

§. 11. Beſides truth taken in the ſtrict ſenſe before-mentioned, there are other ſorts of truth; as, 1. Moral truth, which is ſpeaking of things according to the perſuaſion of our own minds,

minds, though the propoſition we ſpeak agree not to the reality of things. 2. Metaphyſical truth, which is nothing but the real exiſtence of things, conformable to the ideas to which we have annexed their names. This, though it ſeems to conſiſt in the very beings of things, yet, when conſidered a little nearly, will appear to include a tacit propoſition, whereby the mind joins that particular thing to the idea it had before ſettled with a name to it. But theſe conſiderations of truth, either having been before taken notice of, or not being much to our preſent purpoſe, it may ſuffice here only to have mentioned them.

CHAP. VI.

Of Univerſal Propoſitions, their Truth and Certainty.

Treating of words neceſſary to knowledge.

§. 1. THOUGH the examining and judging of ideas by themſelves, their names being quite laid aſide, be the beſt and ſureſt way to clear and diſtinct knowledge; yet, through the prevailing cuſtom of uſing ſounds for ideas, I think it is very ſeldom practiſed. Every one may obſerve how common it is for names to be made uſe of, inſtead of the ideas themſelves, even when men think and reaſon within their own breaſts; eſpecially if the ideas be very complex, and made up of a great collection of ſimple ones. This makes the conſideration of words and propoſitions ſo neceſſary a part of the treatiſe of knowledge, that it is very hard to ſpeak intelligibly of the one, without explaining the other.

General truths hardly to be underſtood, but in verbal propoſitions.

§. 2. All the knowledge we have, being only of particular or general truths, it is evident that whatever may be done in the former of theſe, the latter, which is that which with reaſon is moſt ſought after, can never be well made known, and is very ſeldom apprehended, but as conceived and expreſſed in words.

words. It is not therefore out of our way, in the examination of our knowledge, to inquire into the truth and certainty of univerſal propoſitions.

Certainty two-fold, of truth and of knowledge.

§. 3. But that we may not be miſled in this caſe, by that which is the danger every where, I mean by the doubtfulneſs of terms, it is fit to obſerve, that certainty is two-fold; certainty of truth, and certainty of knowledge. Certainty of truth is, when words are ſo put together in propoſitions, as exactly to expreſs the agreement or diſagreement of the ideas they ſtand for, as really it is. Certainty of knowledge is to perceive the agreement or diſagreement of ideas, as expreſſed in any propoſition. This we uſually call knowing, or being certain of the truth of any propoſition.

No propoſition can be known to be true, where the eſſence of each ſpecies mentioned is not known.

§. 4. Now becauſe we cannot be certain of the truth of any general propoſition, unleſs we know the preciſe bounds and extent of the ſpecies its terms ſtand for, it is neceſſary we ſhould know the eſſence of each ſpecies, which is that which conſtitutes and bounds it. This, in all ſimple ideas and modes, is not hard to do. For in theſe, the real and nominal eſſence being the ſame; or, which is all one, the abſtract idea which the general term ſtands for, being the ſole eſſence and boundary that is or can be ſuppoſed of the ſpecies; there can be no doubt, how far the ſpecies extends, or what things are comprehended under each term: which, it is evident, are all that have an exact conformity with the idea it ſtands for, and no other. But in ſubſtances wherein a real eſſence diſtinct from the nominal is ſuppoſed to conſtitute, determine, and bound the ſpecies, the extent of the general word is very uncertain: becauſe not knowing this real eſſence, we cannot know what is, or what is not of that ſpecies; and conſequently what may, or may not with certainty be affirmed of it. And thus ſpeaking of a man, or gold, or any other ſpecies of natural ſubſtances, as ſuppoſed conſtituted by a preciſe and real eſſence, which nature regularly imparts to every individual of that kind, whereby it is made to be of that ſpecies, we cannot be

certain of the truth of any affirmation or negation made of it. For man, or gold, taken in this ſenſe, and uſed for ſpecies of things conſtituted by real eſſences, different from the complex idea in the mind of the ſpeaker; ſtand for we know not what: and the extent of theſe ſpecies, with ſuch boundaries, are ſo unknown and undetermined, that it is impoſſible with any certainty to affirm, that all men are rational, or that all gold is yellow. But where the nominal eſſence is kept to, as the boundary of each ſpecies, and men extend the application of any general term no farther than to the particular things, in which the complex idea it ſtands for is to be found, there they are in no danger to miſtake the bounds of each ſpecies, nor can be in doubt, on this account, whether any propoſition be true or no. I have choſen to explain this uncertainty of propoſitions in this ſcholaſtic way, and have made uſe of the terms of eſſences and ſpecies, on purpoſe to ſhow the abſurdity and inconvenience there is to think of them, as of any other ſort of realities, than barely abſtract ideas with names to them. To ſuppoſe that the ſpecies of things are any thing but the ſorting of them under general names, according as they agree to ſeveral abſtract ideas, of which we make thoſe names the ſigns, is to confound truth, and introduce uncertainty into all general propoſitions that can be made about them. Though therefore theſe things might, to people not poſſeſſed with ſcholaſtic learning, be treated of in a better and clearer way; yet thoſe wrong notions of eſſences or ſpecies having got root in moſt people's minds, who have received any tincture from the learning which has prevailed in this part of the world, are to be diſcovered and removed, to make way for that uſe of words which ſhould convey certainty with it.

This more particularly concerns ſubſtances.

§. 5. The names of ſubſtances then, whenever made to ſtand for ſpecies, which are ſuppoſed to be conſtituted by real eſſences, which we know not, are not capable to convey certainty to the underſtanding: of the truth of general propoſitions made up of ſuch terms, we cannot be ſure. The reaſon whereof is plain: for how

can we be ſure that this or that quality is in gold, when we know not what is or is not gold? Since in this way of ſpeaking nothing is gold, but what partakes of an eſſence, which we not knowing, cannot know where it is or is not, and ſo cannot be ſure that any parcel of matter in the world is or is not in this ſenſe gold; being incurably ignorant, whether it has or has not that which makes any thing to be called gold, i. e. that real eſſence of gold whereof we have no idea at all: this being as impoſſible for us to know, as it is for a blind man to tell in what flower the colour of a panſie is, or is not to be found, whilſt he has no idea of the colour of a panſie at all. Or if we could (which is impoſſible) certainly know where a real eſſence, which we know not, is; v. g. in what parcels of matter the real eſſence of gold is; yet could we not be ſure, that this or that quality could with truth be affirmed of gold: ſince it is impoſſible for us to know, that this or that quality or idea has a neceſſary connexion with a real eſſence, of which we have no idea at all, whatever ſpecies that ſuppoſed real eſſence may be imagined to conſtitute.

The truth of few univerſal propoſitions concerning ſubſtances is to be known.

§. 6. On the other ſide, the names of ſubſtances, when made uſe of as they ſhould be, for the ideas men have in their minds, though they carry a clear and determinate ſignification with them, will not yet ſerve us to make many univerſal propoſitions, of whoſe truth we can be certain. Not becauſe in this uſe of them we are uncertain what things are ſignified by them, but becauſe the complex ideas they ſtand for are ſuch combinations of ſimple ones, as carry not with them any diſcoverable connexion or repugnancy, but with a very few other ideas.

Becauſe co-exiſtence of ideas in few caſes is to be known.

§. 7. The complex ideas, that our names of the ſpecies of ſubſtances properly ſtand for, are collections of ſuch qualities as have been obſerved to co-exiſt in an unknown ſubſtratum, which we call ſubſtance: but what other qualities neceſſarily co-exiſt with ſuch combinations, we cannot certainly know, unleſs we can diſcover their natural dependence; which in their primary

qualities, we can go but a very little way in; and in all their ſecondary qualities, we can diſcover no connexion at all, for the reaſons mentioned, chap. iii. viz. 1. Becauſe we know not the real conſtitutions of ſubſtances, on which each ſecondary quality particularly depends. 2. Did we know that, it would ſerve us only for experimental (not univerſal) knowledge; and reach with certainty no farther, than that bare inſtance: becauſe our underſtandings can diſcover no conceivable connexion between any ſecondary quality and any modification whatſoever of any of the primary ones. And therefore there are very few general propoſitions to be made concerning ſubſtances, which can carry with them undoubted certainty.

Inſtance in gold.

§. 8. All gold is fixed, is a propoſition whoſe truth we cannot be certain of, how univerſally ſoever it be believed. For if, according to the uſeleſs imagination of the ſchools, any one ſuppoſes the term gold to ſtand for a ſpecies of things ſet out by nature, by a real eſſence belonging to it, it is evident he knows not what particular ſubſtances are of that ſpecies; and ſo cannot, with certainty, affirm any thing univerſally of gold. But if he makes gold ſtand for a ſpecies determined by its nominal eſſence, let the nominal eſſence, for example, be the complex idea of a body of a certain yellow colour, malleable, fuſible, and heavier than any other known; in this proper uſe of the word gold, there is no difficulty to know what is or is not gold. But yet no other quality can with certainty be univerſally affirmed or denied of gold, but what hath a diſcoverable connexion or inconſiſtency with that nominal eſſence. Fixedneſs, for example, having no neceſſary connexion, that we can diſcover, with the colour, weight, or any other ſimple idea of our complex one, or with the whole combination together; it is impoſſible that we ſhould certainly know the truth of this propoſition, that all gold is fixed.

§. 9. As there is no diſcoverable connexion between fixedneſs and the colour, weight, and other ſimple ideas of that nominal eſſence of gold; ſo if we make our complex idea of gold a body yellow, fuſible, ductile, weighty,

and fixed, we ſhall be at the ſame uncertainty concerning ſolubility in aq. regia, and for the ſame reaſon: ſince we can never, from conſideration of the ideas themſelves, with certainty affirm or deny of a body, whoſe complex idea is made up of yellow, very weighty, ductile, fuſible, and fixed, that it is ſoluble in aqua regia; and ſo on, of the reſt of its qualities. I would gladly meet with one general affirmation concerning any quality of gold, that any one can certainly know is true. It will, no doubt, be preſently objected, is not this an univerſal propoſition, "all gold is malleable?" To which I anſwer, it is a very certain propoſition, if malleableneſs be a part of the complex idea the word gold ſtands for. But then here is nothing affirmed of gold, but that that ſound ſtands for an idea in which malleableneſs is contained: and ſuch a ſort of truth and certainty as this, it is to ſay a centaur is four-footed. But if malleableneſs makes not a part of the ſpecific eſſence the name of gold ſtands for, it is plain, "all gold is malleable" is not a certain propoſition. Becauſe let the complex idea of gold be made up of which ſoever of its other qualities you pleaſe, malleableneſs will not appear to depend on that complex idea, nor follow from any ſimple one contained in it: the connexion that malleableneſs has (if it has any) with thoſe other qualities, being only by the intervention of the real conſtitution of its inſenſible parts; which, ſince we know not, it is impoſſible we ſhould perceive that connexion, unleſs we could diſcover that which ties them together.

§. 10. The more, indeed, of theſe coexiſting qualities we unite into one complex idea, under one name, the more preciſe and determinate we make the ſignification of that word; but never yet make it thereby more capable of univerſal certainty, in reſpect of other qualities not contained in our complex idea; ſince we perceive not their connexion or dependence on one another, being ignorant both of that real conſtitution in which they are all founded, and alſo how they flow from it. For the chief part of our knowledge concerning

As far as any ſuch co-exiſtence can be known, ſo far univerſal propoſitions may be certain. But this will go but a little way, becauſe

cerning ſubſtances is not, as in other things, barely of the relation of two ideas that may exiſt ſeparately; but is of the neceſſary connexion and co-exiſtence of ſeveral diſtinct ideas in the ſame ſubject, or of their repugnancy ſo to co-exiſt. Could we begin at the other end, and diſcover what it was, wherein that colour conſiſted, what made a body lighter or heavier, what texture of parts made it malleable, fuſible, and fixed, and fit to be diſſolved in this ſort of liquor, and not in another; if (I ſay) we had ſuch an idea as this of bodies, and could perceive wherein all ſenſible qualities originally conſiſt, and how they are produced; we might frame ſuch ideas of them, as would furniſh us with matter of more general knowledge, and enable us to make univerſal propoſitions, that ſhould carry general truth and certainty with them. But whilſt our complex ideas of the ſorts of ſubſtances are ſo remote from that internal real conſtitution, on which their ſenſible qualities depend, and are made up of nothing but an imperfect collection of thoſe apparent qualities our ſenſes can diſcover; there can be few general propoſitions concerning ſubſtances, of whoſe real truth we can be certainly aſſured: ſince there are but few ſimple ideas, of whoſe connexion and neceſſary co-exiſtence we can have certain and undoubted knowledge. I imagine, amongſt all the ſecondary qualities of ſubſtances, and the powers relating to them, there cannot any two be named, whoſe neceſſary co-exiſtence, or repugnance to co-exiſt, can certainly be known, unleſs in thoſe of the ſame ſenſe, which neceſſarily exclude one another, as I have elſewhere ſhowed. No one, I think, by the colour that is in any body, can certainly know what ſmell, taſte, ſound, or tangible qualities it has, nor what alterations it is capable to make or receive, on or from other bodies. The ſame may be ſaid of the ſound or taſte, &c. Our ſpecific names of ſubſtances ſtanding for any collections of ſuch ideas, it is not to be wondered, that we can with them make very few general propoſitions of undoubted real certainty. But yet ſo far as any complex idea, of any ſort of ſubſtances, contains in it any ſimple idea, whoſe neceſſary co-exiſtence with any other may be diſcovered,

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ſo far univerſal propoſitions may with certainty be made concerning it: v. g. could any one diſcover a neceſſary connexion between malleableneſs, and the colour or weight of gold, or any other part of the complex idea ſignified by that name, he might make a certain univerſal propoſition concerning gold in this reſpect; and the real truth of this propoſition, "that all gold is malleable," would be as certain as of this, "the three angles of all "right-lined triangles are all equal to two right ones."

The qualities which make our complex ideas of ſubſtances, depend moſtly on external, remote, and unperceived cauſes.

§. 11. Had we ſuch ideas of ſubſtances, as to know what real conſtitutions produce thoſe ſenſible qualities we find in them, and how thoſe qualities flowed from thence, we could, by the ſpecific ideas of their real eſſences in our own minds, more certainly find out their properties, and diſcover what qualities they had or had not, than we can now by our ſenſes: and to know the properties of gold, it would be no more neceſſary that gold ſhould exiſt, and that we ſhould make experiments upon it, than it is neceſſary for the knowing the properties of a triangle, that a triangle ſhould exiſt in any matter; the idea in our minds would ſerve for the one as well as the other. But we are ſo far from being admitted into the ſecrets of nature, that we ſcarce ſo much as ever approach the firſt entrance towards them. For we are wont to conſider the ſubſtances we meet with, each of them as an entire thing by itſelf, having all its qualities in itſelf, and independent of other things; overlooking, for the moſt part, the operations of thoſe inviſible fluids they are encompaſſed with, and upon whoſe motions and operations depend the greateſt part of thoſe qualities which are taken notice of in them, and are made by us the inherent marks of diſtinction whereby we know and denominate them. Put a piece of gold any where by itſelf, ſeparate from the reach and influence of all other bodies, it will immediately loſe all its colour and weight, and perhaps malleableneſs too; which, for aught I know, would be changed into a perfect friability. Water, in which to us fluidity is an eſſential quality, left to itſelf, would ceaſe to be fluid. But if inanimate

bodies owe ſo much of their preſent ſtate to other bodies without them, that they would not be what they appear to us, were thoſe bodies that environ them removed; it is yet more ſo in vegetables, which are nouriſhed, grow, and produce leaves, flowers, and ſeeds, in a conſtant ſucceſſion. And if we look a little nearer into the ſtate of animals, we ſhall find that their dependence, as to life, motion, and the moſt conſiderable qualities to be obſerved in them, is ſo wholly on extrinſical cauſes and qualities of other bodies that make no part of them, that they cannot ſubſiſt a moment without them: though yet thoſe bodies on which they depend, are little taken notice of, and make no part of the complex ideas we frame of thoſe animals. Take the air but for a minute from the greateſt part of living creatures, and they preſently loſe ſenſe, life, and motion. This the neceſſity of breathing has forced into our knowledge. But how many other extrinſical, and poſſibly very remote bodies, do the ſprings of theſe admirable machines depend on, which are not vulgarly obſerved, or ſo much as thought on; and how many are there, which the ſevereſt inquiry can never diſcover? The inhabitants of this ſpot of the univerſe, though removed ſo many millions of miles from the ſun, yet depend ſo much on the duly tempered motion of particles coming from, or agitated by it, that were this earth removed but a ſmall part of the diſtance out of its preſent ſituation, and placed a little farther or nearer that ſource of heat, it is more than probable that the greateſt part of the animals in it would immediately periſh: ſince we find them ſo often deſtroyed by an exceſs or defect of the ſun's warmth, which an accidental poſition, in ſome parts of this our little globe, expoſes them to. The qualities obſerved in a loadſtone muſt needs have their ſource far beyond the confines of that body; and the ravage made often on ſeveral ſorts of animals by inviſible cauſes, the certain death (as we are told) of ſome of them, by barely paſſing the line, or, as it is certain of other, by being removed into a neighbouring country; evidently ſhow that the concurrence and operations of ſeveral bodies, with which they are ſeldom thought to have any thing

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to do, is abſolutely neceſſary to make them be what they appear to us, and to preſerve thoſe qualities by which we know and diſtinguiſh them. We are then quite out of the way, when we think that things contain within themſelves the qualities that appear to us in them; and we in vain ſearch for that conſtitution within the body of a fly, or an elephant, upon which depend thoſe qualities and powers we obſerve in them. For which perhaps, to underſtand them aright, we ought to look not only beyond this our earth and atmoſphere, but even beyond the ſun, or remoteſt ſtar our eyes have yet diſcovered. For how much the being and operation of particular ſubſtances in this our globe depends on cauſes utterly beyond our view, is impoſſible for us to determine. We ſee and perceive ſome of the motions and groſſer operations of things here about us; but whence the ſtreams come that keep all theſe curious machines in motion and repair, how conveyed and modified, is beyond our notice and apprehenſion: and the great parts and wheels, as I may ſo ſay, of this ſtupendous ſtructure of the univerſe, may, for aught we know, have ſuch a connexion and dependence in their influences and operations one upon another, that perhaps things in this our manſion would put on quite another face, and ceaſe to be what they are, if ſome one of the ſtars or great bodies, incomprehenſibly remote from us, ſhould ceaſe to be or move as it does. This is certain, things however abſolute and entire they ſeem in themſelves, are but retainers to other parts of nature, for that which they are moſt taken notice of by us. Their obſervable qualities, actions, and powers, are owing to ſomething without them; and there is not ſo complete and perfect a part that we know of nature, which does not owe the being it has, and the excellencies of it, to its neighbours; and we muſt not confine our thoughts within the ſurface of any body, but look a great deal farther, to comprehend perfectly thoſe qualities that are in it.

§. 12. If this be ſo, it is not to be wondered, that we have very imperfect ideas of ſubſtances; and that the real eſſences, on which depend their properties and ope-

operations are unknown to us. We cannot diſcover ſo much as that ſize, figure, and texture of their minute and active parts, which is really in them; much leſs the different motions and impulſes made in and upon them by bodies from without, upon which depends, and by which is formed, the greateſt and moſt remarkable part of thoſe qualities we obſerve in them, and of which our complex ideas of them are made up. This conſideration alone is enough to put an end to all our hopes of ever having the ideas of their real eſſences; which whilſt we want, the nominal eſſences we make uſe of inſtead of them will be able to furniſh us but very ſparingly with any general knowledge, or univerſal propoſitions capable of real certainty.

Judgment may reach farther, but that is not knowledge.

§. 13. We are not therefore to wonder, if certainty be to be found in very few general propoſitions made concerning ſubſtances: our knowledge of their qualities and properties goes very ſeldom farther than our ſenſes reach and inform us. Poſſibly inquiſitive, and obſerving men may, by ſtrength of judgment, penetrate farther, and on probabilities taken from wary obſervation, and hints well laid together, often gueſs right at what experience has not yet diſcovered to them. But this is but gueſſing ſtill; it amounts only to opinion, and has not that certainty which is requiſite to knowledge. For all general knowledge lies only in our own thoughts, and conſiſts barely in the contemplation of our own abſtract ideas. Wherever we perceive any agreement or diſagreement amongſt them, there we have general knowledge; and, by putting the names of thoſe ideas together accordingly in propoſitions, can with certainty pronounce general truths. But becauſe the abſtract ideas of ſubſtances, for which their ſpecific names ſtand, whenever they have any diſtinct and determinate ſignification, have a diſcoverable connexion or inconſiſtency with but a very few other ideas; the certainty of univerſal propoſitions concerning ſubſtances is very narrow and ſcanty in that part, which is our principal inquiry concerning them: and there are ſcarce any of the names of ſubſtances, let the idea it is applied

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to be what it will, of which we can generally and with certainty pronounce, that it has or has not this or that other quality belonging to it, and conſtantly co-exiſting or inconſiſtent with that idea, wherever it is to be found.

What is requiſite for our knowledge of ſubſtances.

§. 14. Before we can have any tolerable knowledge of this kind, we muſt firſt know what changes the primary qualities of one body do regularly produce in the primary qualities of another, and how. Secondly, we muſt know what primary qualities of any body produce certain ſenſations or ideas in us. This is in truth no leſs than to know all the effects of matter, under its divers modifications of bulk, figure, coheſion of parts, motion and reſt. Which, I think every body will allow, is utterly impoſſible to be known by us without revelation. Nor if it were revealed to us, what ſort of figure, bulk, and motion of corpuſcles, would produce in us the ſenſation of a yellow colour, and what ſort of figure, bulk, and texture of parts, in the ſuperficies of any body, were fit to give ſuch corpuſcles their due motion to produce that colour; would that be enough to make univerſal propoſitions with certainty, concerning the ſeveral ſorts of them, unleſs we had faculties acute enough to perceive the preciſe bulk, figure, texture, and motion of bodies in thoſe minute parts, by which they operate on our ſenſes, ſo that we might by thoſe frame our abſtract ideas of them. I have mentioned here only corporeal ſubſtances, whoſe operations ſeem to lie more level to our underſtandings: for as to the operations of ſpirits, both their thinking and moving of bodies, we at firſt ſight find ourſelves at a loſs; though perhaps, when we have applied our thoughts a little nearer to the conſideration of bodies, and their operations, and examined how far our notions, even in theſe, reach, with any clearneſs, beyond ſenſible matter of fact, we ſhall be bound to confeſs, that even in theſe too our diſcoveries amount to very little beyond perfect ignorance and incapacity.

Whilſt our ideas of ſubſtances con-

§. 15. This is evident, the abſtract complex ideas of ſubſtances, for which their general names ſtand, not comprehending their

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tain not their real conſtitutions, we can make but few general certain propoſitions concerning them.

real conſtitutions, can afford us very little univerſal certainty. Becauſe our ideas of them are not made up of that, on which thoſe qualities we obſerve in them, and would inform ourſelves about, do depend, or with which they have any certain connexion: v. g. let the ideas to which we give the name man, be, as it commonly is, a body of the ordinary ſhape, with ſenſe, voluntary motion, and reaſon joined to it. This being the abſtract idea, and conſequently the eſſence of our ſpecies man, we can make but very few general certain propoſitions concerning man, ſtanding for ſuch an idea. Becauſe not knowing the real conſtitution on which ſenſation, power of motion, and reaſoning, with that peculiar ſhape, depend, and whereby they are united together in the ſame ſubject, there are very few other qualities, with which we can perceive them to have a neceſſary connexion: and therefore we cannot with certainty affirm, that all men ſleep by intervals; that no man can be nouriſhed by wood or ſtones; that all men will be poiſoned by hemlock: becauſe theſe ideas have no connexion nor repugnancy with this our nominal eſſence of man, with this abſtract idea that name ſtands for. We muſt, in theſe and the like, appeal to trial in particular ſubjects, which can reach but a little way. We muſt content ourſelves with probability in the reſt; but can have no general certainty, whilſt our ſpecific idea of man contains not that real conſtitution, which is the root, wherein all his inſeparable qualities are united, and from whence they flow. Whilſt our idea, the word man ſtands for, is only an imperfect collection of ſome ſenſible qualities and powers in him, there is no diſcernible connexion or repugnance between our ſpecific idea, and the operation of either the parts of hemlock or ſtones, upon his conſtitution. There are animals that ſafely eat hemlock, and others that are nouriſhed by wood and ſtones: but as long as we want ideas of thoſe real conſtitutions of different ſorts of animals, wherein theſe and the like qualities and powers depend, we muſt not hope to reach certainty in univerſal propoſitions

poſitions concerning them. Thoſe few ideas only, which have a diſcernible connexion with our nominal eſſence, or any part of it, can afford us ſuch propoſitions. But theſe are ſo few, and of ſo little moment, that we may juſtly look on our certain general knowledge of ſubſtances, as almoſt none at all.

Wherein lies the general certainty of propoſitions.

§. 16. To conclude, general propoſitions, of what kind ſoever, are then only capable of certainty, when the terms uſed in them ſtand for ſuch ideas, whoſe agreement or diſagreement, as there expreſſed, is capable to be diſcovered by us. And we are then certain of their truth or falſhood, when we perceive the ideas the terms ſtand for to agree or not agree, according as they are affirmed or denied one of another. Whence we may take notice, that general certainty is never to be found but in our ideas. Whenever we go to ſeek it elſewhere in experiment, or obſervations without us, our knowledge goes not beyond particulars. It is the contemplation of our own abſtract ideas that alone is able to afford us general knowledge.

CHAP. VII.

Of Maxims.

They are ſelf-evident.

§. 1. THERE are a ſort of propoſitions, which under the name of maxims and axioms have paſſed for principles of ſcience; and becauſe they are ſelf-evident, have been ſuppoſed innate, although no-body (that I know) ever went about to ſhow the reaſon and foundation of their clearneſs or cogency. It may however be worth while to inquire into the reaſon of their evidence, and ſee whether it be peculiar to them alone, and alſo examine how far they influence and govern our other knowledge.

Wherein that ſelf-evidence conſiſts.

§. 2. Knowledge, as has been ſhown, conſiſts in the perception of the agreement or diſagreement of ideas: now where that

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agreement or diſagreement is perceived immediately by itſelf, without the intervention or help of any other, there our knowledge is ſelf-evident. This will appear to be ſo to any one, who will but conſider any of thoſe propoſitions, which, without any proof, he aſſents to at firſt ſight: for in all of them he will find, that the reaſon of his aſſent is from that agreement or diſagreement, which the mind, by an immediate comparing them, finds in thoſe ideas anſwering the affirmation or negation in the propoſition.

Self-evidence not peculiar to received axioms.

§. 3. This being ſo, in the next place let us conſider, whether this ſelf-evidence be peculiar only to thoſe propoſitions, which commonly paſs under the name of maxims and have the dignity of axioms allowed them. And here it is plain, that ſeveral other truths, not allowed to be axioms, partake equally with them in this ſelf-evidence. This we ſhall ſee, if we go over theſe ſeveral ſorts of agreement or diſagreement of ideas, which I have above-mentioned, viz. identity, relation, co-exiſtence, and real exiſtence; which will diſcover to us, that not only thoſe few propoſitions, which have had the credit of maxims, are ſelf-evident, but a great many, even almoſt an infinite number of other propoſitions are ſuch.

1. As to identity and diverſity, all propoſitions are equally ſelf-evident.

§. 4. For, firſt the immediate perception of the agreement or diſagreement of identity, being founded in the mind's having diſtinct ideas, this affords us as many ſelf-evident propoſitions, as we have diſtinct ideas. Every one that has any knowledge at all, has, as the foundation of it, various and diſtinct ideas: and it is the firſt act of the mind (without which it can never be capable of any knowledge) to know every one of its ideas by itſelf, and diſtinguiſh it from others. Every one finds in himſelf, that he knows the ideas he has; that he knows alſo, when any one is in his underſtanding, and what it is; and that when more than one are there, he knows them diſtinctly and unconfuſedly one from another. Which always being ſo (it being impoſſible but that he ſhould perceive what he perceives) he can never be in doubt when any idea is

is in his mind, that it is there, and is that idea it is; and that two diſtinct ideas, when they are in his mind, are there, and are not one and the ſame idea. So that all ſuch affirmations and negations are made without any poſſibility of doubt, uncertainty, or heſitation, and muſt neceſſarily be aſſented to as ſoon as underſtood; that is, as ſoon as we have in our minds determined ideas, which the terms in the propoſition ſtand for. And therefore whenever the mind with attention conſiders any propoſition, ſo as to perceive the two ideas ſignified by the terms, and affirmed or denied one of another, to be the ſame or different; it is preſently and infallibly certain of the truth of ſuch a propoſition, and this equally, whether theſe propoſitions be in terms ſtanding for more general ideas, or ſuch as are leſs ſo, v. g. whether the general idea of being be affirmed of itſelf, as in this propoſition, whatſoever is, is; or a more particular idea be affirmed of itſelf, as a man is a man; or, whatſoever is white is white; or whether the idea of being in general be denied of not being, which is the only (if I may ſo call it) idea different from it, as in this other propoſition, it is impoſſible for the ſame thing to be, and not to be; or any idea of any particular being be denied of another different from it, as, a man is not a horſe; red is not blue. The difference of the ideas, as ſoon as the terms are underſtood, makes the truth of the propoſition preſently viſible, and that with an equal certainty and eaſineſs in the leſs as well as the more general propoſitions, and all for the ſame reaſon, viz. becauſe the mind perceives, in any ideas that it has, the ſame idea to be the ſame with itſelf; and two different ideas to be different, and not the ſame. And this it is equally certain of, whether theſe ideas be more or leſs general, abſtract, and comprehenſive. It is not therefore alone to theſe two general propoſitions, whatſoever is, is; and it is impoſſible for the ſame thing to be, and not to be; that this ſort of ſelf-evidence belongs by any peculiar right. The perception of being, or not being, belongs no more to theſe vague ideas, ſignified by the terms whatſoever and thing, than it does to any other ideas. Theſe two general maxims, amounting to no more in

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ſhort but this, that the ſame is the ſame, and ſame is not different, are truths known in more particular inſtances, as well as in thoſe general maxims, and known alſo in particular inſtances, before theſe general maxims are ever thought on, and draw all their force from the diſcernment of the mind employed about particular ideas. There is nothing more viſible than that the mind, without the help of any proof, or reflection on either of theſe general propoſitions, perceives ſo clearly, and knows ſo certainly, that the idea of white is the idea of white, and not the idea of blue; and that the idea of white, when it is in the mind, is there, and is not abſent; that the conſideration of theſe axioms can add nothing to the evidence or certainty of its knowledge. Juſt ſo it is (as every one may experiment in himſelf) in all the ideas a man has in his mind: he knows each to be itſelf, and not to be another; and to be in his mind, and not away when it is there, with a certainty that cannot be greater; and therefore the truth of no general propoſition can be known with a greater certainty, nor add any thing to this. So that in reſpect of identity, our intuitive knowledge reaches as far as our ideas. And we are capable of making as many ſelf-evident propoſitions, as we have names for diſtinct ideas. And I appeal to every one's own mind, whether this propoſition, A circle is a circle, be not as ſelf-evident a propoſition, as that conſiſting of more general terms, whatſoever is, is; and again whether this propoſition, blue is not red, be not a propoſition that the mind can no more doubt of, as ſoon as it underſtands the words, than it does of that axiom, It is impoſſible for the ſame thing to be, and not to be; and ſo of all the like.

2. In coexiſtence we have few ſelf-evident propoſitions.

§. 5. Secondly, as to co-exiſtence, or ſuch neceſſary connexion between two ideas, that, in the ſubject where one of them is ſuppoſed, there the other muſt neceſſarily be alſo: of ſuch agreement or diſagreement as this, the mind has an immediate perception but in very few of them. And therefore in this ſort we have but very little intuitive knowledge; nor are there to be found

found very many propoſitions that are ſelf-evident, though ſome there are; v. g. the idea of filling a place equal to the contents of its ſuperficies, being annexed to our idea of body, I think it is a ſelf-evident propoſition, that two bodies cannot be in the ſame place.

3. In other relations we may have.

§. 6. Thirdly, as to the relations of modes, mathematicians have framed many axioms concerning that one relation of equality. As, equals taken from equals, the remainder will be equal; which, with the reſt of that kind, however they are received for maxims by the mathematicians, and are unqueſtionable truths; yet, I think, that any one who conſiders them will not find, that they have a clearer ſelf-evidence than theſe, that one and one are equal to two; that if you take from the five fingers of one hand two, and from the five fingers of the other hand two, the remaining numbers will be equal. Theſe and a thouſand other ſuch propoſitions may be found in numbers, which, at the very firſt hearing, force the aſſent, and carry with them an equal, if not greater clearneſs, than thoſe mathematical axioms.

4. Concerning real exiſtence we have none.

§. 7. Fourthly, as to real exiſtence, ſince that has no connexion with any other of our ideas, but that of ourſelves, and of a firſt being, we have in that, concerning the real exiſtence of all other beings, not ſo much as demonſtrative, much leſs a ſelf-evident knowledge; and therefore concerning thoſe there are no maxims.

Theſe axioms do not much influence our other knowledge.

§. 8. In the next place let us conſider, what influence theſe received maxims have upon the other parts of our knowledge. The rules eſtabliſhed in the ſchools, that all reaſonings are "ex præcognitis & præconceſſis," ſeem to lay the foundation of all other knowledge in theſe maxims, and to ſuppoſe them to be præcognita; whereby, I think, are meant theſe two things: firſt, that theſe axioms are thoſe truths that are firſt known to the mind. And, ſecondly, that upon them the other parts of our knowledge depend.

Becauſe they are not the truths we firſt knew.

§. 9. Firſt, that they are not the truths firſt known to the mind is evident to experience, as we have ſhown in another place, book i. chap. ii. Who perceives not that a child certainly knows that a ſtranger is not its mother; that its ſucking-bottle is not the rod, long before he knows that it is impoſſible for the ſame thing to be and not to be? And how many truths are there about numbers, which it is obvious to obſerve, that the mind is perfectly acquainted with, and fully convinced of, before it ever thought on theſe general maxims, to which mathematicians, in their arguings, do ſometimes refer them? Whereof the reaſon is very plain: for that which makes the mind aſſent to ſuch propoſitions, being nothing elſe but the perception it has of the agreement or diſagreement of its ideas, according as it finds them affirmed or denied one of another, in words it underſtands; and every idea being known to be what it is, and every two diſtinct ideas being known not to be the ſame; it muſt neceſſarily follow, that ſuch ſelf-evident truths muſt be firſt known which conſiſt of ideas that are firſt in the mind: and the ideas firſt in the mind, it is evident, are thoſe of particular things, from whence, by ſlow degrees, the underſtanding proceeds to ſome few general ones; which being taken from the ordinary and familiar objects of ſenſe, are ſettled in the mind, with general names to them. Thus particular ideas are firſt received and diſtinguiſhed, and ſo knowledge got about them; and next to them, the leſs general or ſpecific, which are next to particular: for abſtract ideas are not ſo obvious or eaſy to children, or the yet unexerciſed mind, as particular ones. If they ſeem ſo to grown men, it is only becauſe by conſtant and familiar uſe they are made ſo. For when we nicely reflect upon them, we ſhall find, that general ideas are fictions and contrivances of the mind, that carry difficulty with them, and do not ſo eaſily offer themſelves, as we are apt to imagine. For example, does it not require ſome pains and ſkill to form the general idea of a triangle (which is yet none of the moſt abſtract, comprehenſive, and difficult), for it muſt be neither oblique, nor rect-

angle, neither equilateral, equicrural, nor ſcalenon; but all and none of theſe at once. In effect, it is ſomething imperfect, that cannot exiſt; an idea wherein ſome parts of ſeveral different and inconſiſtent ideas are put together. It is true, the mind, in this imperfect ſtate, has need of ſuch ideas, and makes all the haſte to them it can, for the conveniency of communication and enlargement of knowledge; to both which it is naturally very much inclined. But yet one has reaſon to ſuſpect ſuch ideas are marks of our imperfection; at leaſt this is enough to ſhow, that the moſt abſtract and general ideas are not thoſe that the mind is firſt and moſt eaſily acquainted with, not ſuch as its earlieſt knowledge is converſant about.

Becauſe on them the other parts of our knowledge do not depend.

§. 10. Secondly, from what has been ſaid it plainly follows, that theſe magnified maxims are not the principles and foundations of all our other knowledge. For if there be a great many other truths, which have as much ſelf-evidence as they, and a great many that we know before them, it is impoſſible they ſhould be the principles, from which we deduce all other truths. Is it impoſſible to know that one and two are equal to three, but by virtue of this, or ſome ſuch axiom, viz. the whole is equal to all its parts taken together? Many a one knows that one and two are equal to three, without having heard, or thought on that, or any other axiom, by which it might be proved: and knows it as certainly, as any other man knows, that the whole is equal to all its parts, or any other maxim, and all from the ſame reaſon of ſelf-evidence; the equality of thoſe ideas being as viſible and certain to him without that, or any other axiom, as with it, it needing no proof to make it perceived. Nor after the knowledge, that the whole is equal to all its parts, does he know that one and two are equal to three, better or more certainly than he did before. For if there be any odds in thoſe ideas, the whole and parts are more obſcure, or at leaſt more difficult to be ſettled in the mind, than thoſe of one, two, and three. And indeed, I think, I may aſk theſe men, who will needs have all knowledge, beſides

thoſe general principles themſelves, to depend on general, innate, and ſelf-evident principles: what principle is requiſite to prove, that one and one are two, that two and two are four, that three times two are ſix? Which being known without any proof, do evince, that either all knowledge does not depend on certain præcognita or general maxims, called principles, or elſe that theſe are principles; and if theſe are to be counted principles, a great part of numeration will be ſo. To which if we add all the ſelf-evident propoſitions, which may be made about all our diſtinct ideas, principles will be almoſt infinite, at leaſt innumerable, which men arrive to the knowledge of, at different ages; and a great many of theſe innate principles they never come to know all their lives. But whether they come in view of the mind, earlier or later, this is true of them, that they are all known by their native evidence, are wholly independent, receive no light, nor are capable of any proof one from another; much leſs the more particular, from the more general; or the more ſimple, from the more compounded: the more ſimple, and leſs abſtract, being the moſt familiar, and the eaſier and earlier apprehended. But which ever be the cleareſt ideas, the evidence and certainty of all ſuch propoſitions is in this, that a man ſees the ſame idea to be the ſame idea, and infallibly perceives two different ideas to be different ideas. For when a man has in his underſtanding the ideas of one and of two, the idea of yellow, and the idea of blue, he cannot but certainly know, that the idea of one is the idea of one, and not the idea of two; and that the idea of yellow is the idea of yellow, and not the idea of blue. For a man cannot confound the ideas in his mind, which he has diſtinct: that would be to have them confuſed and diſtinct at the ſame time, which is a contradiction: and to have none diſtinct is to have no uſe of our faculties, to have no knowledge at all. And therefore what idea ſoever is affirmed of itſelf, or whatſoever two entire diſtinct ideas are denied one of another, the mind cannot but aſſent to ſuch a propoſition as infallibly true, as ſoon as it underſtands the terms, without heſitation or

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need of proof, or regarding thoſe made in more general terms, and called maxims.

What uſe theſe general maxims have.

§. 11. What ſhall we then ſay? Are theſe general maxims of no uſe? By no means; though perhaps their uſe is not that, which it is commonly taken to be. But ſince doubting in the leaſt of what hath been by ſome men aſcribed to theſe maxims may be apt to be cried out againſt, as overturning the foundations of all the ſciences; it may be worth while to conſider them, with reſpect to other parts of our knowledge, and examine more particularly to what purpoſes they ſerve, and to what not.

1. It is evident from what has been already ſaid, that they are of no uſe to prove or confirm leſs general ſelf-evident propoſitions.

2. It is as plain that they are not, nor have been the foundations whereon any ſcience hath been built. There is, I know, a great deal of talk, propagated from ſcholaſtic men, of ſciences and the maxims on which they are built: but it has been my ill luck never to meet with any ſuch ſciences; much leſs any one built upon theſe two maxims, what is, is; and it is impoſſible for the ſame thing to be, and not to be. And I would be glad to be ſhown where any ſuch ſcience, erected upon theſe, or any other general axioms, is to be found: and ſhould be obliged to any one who would lay before me the frame and ſyſtem of any ſcience ſo built on theſe or any ſuch-like maxims, that could not be ſhown to ſtand as firm without any conſideration of them. I aſk, whether theſe general maxims have not the ſame uſe in the ſtudy of divinity, and in theological queſtions, that they have in other ſciences? They ſerve here too to ſilence wranglers, and put an end to diſpute. But I think that nobody will therefore ſay, that the chriſtian religion is built upon theſe maxims, or that the knowledge we have of it is derived from theſe principles. It is from revelation we have received it, and without revelation theſe maxims had never been able to help us to it. When we find out an idea, by whoſe intervention we diſcover the connexion of two others, this is a revelation from

God to us, by the voice of reaſon. For we then come to know a truth that we did not know before. When God declares any truth to us, this is a revelation to us by the voice of his ſpirit, and we are advanced in our knowledge. But in neither of theſe do we receive our light or knowledge from maxims. But in the one the things themſelves afford it, and we ſee the truth in them by perceiving their agreement or diſagreement. In the other, God himſelf affords it immediately to us, and we ſee the truth of what he ſays in his unerring veracity.

3. They are not of uſe to help men forward in the advancement of ſciences, or new diſcoveries of yet unknown truths. Mr. Newton, in his never enough to be admired book, has demonſtrated ſeveral propoſitions, which are ſo many new truths, before unknown to the world, and are farther advances in mathematical knowledge: but, for the diſcovery of theſe, it was not the general maxims, what is, is; or, the whole is bigger than a part; or the like; that helped him. Theſe were not the clues that led him into the diſcovery of the truth and certainty of thoſe propoſitions. Nor was it by them that he got the knowledge of thoſe demonſtrations; but by finding out intermediate ideas, that ſhowed the agreement or diſagreement of the ideas, as expreſſed in the propoſitions he demonſtrated. This is the greateſt exerciſe and improvement of human underſtanding in the enlarging of knowledge, and advancing the ſciences; wherein they are far enough from receiving any help from the contemplation of theſe, or the like magnified maxims. Would thoſe who have this traditional admiration of theſe propoſitions, that they think no ſtep can be made in knowledge without the ſupport of an axiom, no ſtone laid in the building of the ſciences without a general maxim, but diſtinguiſh between the method of acquiring knowledge, and of communicating; between the method of raiſing any ſcience and that of teaching it to others as far as it is advanced; they would ſee that thoſe general maxims were not the foundations on which the firſt diſcoverers raiſed their admirable ſtructures, nor the keys that unlocked and opened thoſe ſecrets of knowledge. Though afterwards, when ſchools were

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erected, and ſciences had their profeſſors to teach what others had found out, they often made uſe of maxims, i. e. laid down certain propoſitions which were ſelf-evident, or to be received for true; which being ſettled in the minds of their ſcholars, as unqueſtionable verities, they on occaſion made uſe of, to convince them of truths in particular inſtances that were not ſo familiar to their minds as thoſe general axioms which had before been inculcated to them, and carefully ſettled in their minds. Though theſe particular inſtances, when well reflected on, are no leſs ſelf-evident to the underſtanding than the general maxims brought to confirm them: and it was in thoſe particular inſtances that the firſt diſcoverer found the truth, without the help of the general maxims: and ſo may any one elſe do, who with attention conſiders them.

To come therefore to the uſe that is made of maxims.

1. They are of uſe, as has been obſerved, in the ordinary methods of teaching ſciences as far as they are advanced; but of little or none in advancing them farther.

2. They are of uſe in diſputes, for the ſilencing of obſtinate wranglers, and bringing thoſe conteſts to ſome concluſion. Whether a need of them to that end came not in, in the manner following, I crave leave to inquire. The ſchools having made diſputation the touchſtone of men's abilities, and the criterion of knowledge, adjudged victory to him that kept the field: and he that had the laſt word, was concluded to have the better of the argument, if not of the cauſe. But becauſe by this means there was like to be no deciſion between ſkilful combatants, whilſt one never failed of a medius terminus to prove any propoſition; and the other could as conſtantly, without, or with a diſtinction, deny the major or minor; to prevent, as much as could be, running out of diſputes into an endleſs train of ſyllogiſms, certain general propoſitions, moſt of them indeed ſelf-evident, were introduced into the ſchools; which being ſuch as all men allowed and agreed in, were looked on as general meaſures of truth, and ſerved inſtead of principles (where the diſputants had not lain down any other between

them) beyond which there was no going, and which muſt not be receded from by either ſide. And thus theſe maxims getting the name of principles, beyond which men in diſpute could not retreat, were by miſtake taken to be originals and ſources, from whence all knowledge began, and the foundations whereon the ſciences were built. Becauſe when in their diſputes they came to any of theſe, they ſtopped there, and went no farther, the matter was determined. But how much this is a miſtake, hath been already ſhown.

This method of the ſchools, which have been thought the fountains of knowledge, introduced, as I ſuppoſe, the like uſe of theſe maxims, into a great part of converſation out of the ſchools, to ſtop the mouths of cavillers, whom any one is excuſed from arguing any longer with, when they deny theſe general ſelf-evident principles received by all reaſonable men, who have once thought of them: but yet their uſe herein is but to put an end to wrangling. They in truth, when urged in ſuch caſes, teach nothing: that is already done by the intermediate ideas made uſe of in the debate, whoſe connexion may be ſeen without the help of thoſe maxims, and ſo the truth known before the maxim is produced, and the argument brought to a firſt principle. Men would give off a wrong argument before it came to that, if in their diſputes they propoſed to themſelves the finding and embracing of truth, and not a conteſt for victory. And thus maxims have their uſe to put a ſtop to their perverſeneſs, whoſe ingenuity ſhould have yielded ſooner. But the method of the ſchools having allowed and encouraged men to oppoſe and reſiſt evident truth till they are baffled, i. e. till they are reduced to contradict themſelves or ſome eſtabliſhed principle; it is no wonder that they ſhould not in civil converſation be aſhamed of that, which in the ſchools is counted a virtue and a glory; obſtinately to maintain that ſide of the queſtion they have choſen, whether true or falſe, to the laſt extremity, even after conviction. A ſtrange way to attain truth and knowledge, and that which I think the rational part of mankind, not corrupted by *education*, could ſcarce believe ſhould ever be admitted

amongſt

amongſt the lovers of truth, and ſtudents of religion or nature; or introduced into the ſeminaries of thoſe who are to propagate the truths of religion or philoſophy amongſt the ignorant and unconvinced. How much ſuch a way of learning is like to turn young men's minds from the ſincere ſearch and love of truth; nay, and to make them doubt whether there is any ſuch thing, or at leaſt worth the adhering to, I ſhall not now inquire. This I think, that bating thoſe places, which brought the peripatetic philoſophy into their ſchools, where it continued many ages, without teaching the world any thing but the art of wrangling; theſe maxims were no where thought the foundations on which the ſciences were built, nor the great helps to the advancement of knowledge.

As to theſe general maxims therefore, they are, as I have ſaid, of great uſe in diſputes, to ſtop the mouths of wranglers; but not of much uſe to the diſcovery of unknown truths, or to help the mind forwards in its ſearch after knowledge. For who ever began to build his knowledge on this general propoſition, what is, is; or, it is impoſſible for the ſame thing to be, and not to be: and from either of theſe, as from a principle of ſcience, deduced a ſyſtem of uſeful knowledge? Wrong opinions often involving contradictions, one of theſe maxims, as a touch-ſtone, may ſerve well to ſhow whither they lead. But yet, however fit to lay open the abſurdity or miſtake of a man's reaſoning or opinion, they are of very little uſe for enlightening the underſtanding: and it will not be found, that the mind receives much help from them in its progreſs in knowledge; which would be neither leſs, nor leſs certain, were theſe two general propoſitions never thought on. It is true, as I have ſaid, they ſometimes ſerve in argumentation to ſtop a wrangler's mouth, by ſhowing the abſurdity of what he ſaith, and by expoſing him to the ſhame of contradicting what all the world knows, and he himſelf cannot but own to be true. But it is one thing to ſhow a man that he is in an error; and another to put him in poſſeſſion of truth: and I would fain know what truths theſe two propoſitions are able to

teach,

teach, and by their influence make us know, which we did not know before, or could not know without them. Let us reaſon from them as well as we can, they are only about identical predications, and influence, if any at all, none but ſuch. Each particular propoſition concerning identity or diverſity, is as clearly and certainly known in itſelf, if attended to, as either of theſe general ones: only theſe general ones, as ſerving in all caſes, are therefore more inculcated and inſiſted on. As to other leſs general maxims, many of them are no more than bare verbal propoſitions, and teach us nothing but the reſpect and import of names one to another. "The whole is equal to all its parts;" what real truth, I beſeech you, does it teach us? What more is contained in that maxim than what the ſignification of the word totum, or the whole, does of itſelf import? And he that knows that the word whole ſtands for what is made up of all its parts, knows very little leſs, than that the whole is equal to all its parts. And upon the ſame ground, I think that this propoſition, a hill is higher than a valley, and ſeveral the like, may alſo paſs for maxims. But yet maſters of mathematics, when they would, as teachers of what they know, initiate others in that ſcience; do not without reaſon place this, and ſome other ſuch maxims, at the entrance of their ſyſtems; that their ſcholars, having in the beginning perfectly acquainted their thoughts with theſe propoſitions made in ſuch general terms, may be uſed to make ſuch reflections, and have theſe more general propoſitions, as formed rules and ſayings, ready to apply to all particular caſes. Not that if they be equally weighed, they are more clear and evident than the particular inſtances they are brought to confirm; but that, being more familiar to the mind, the very naming them is enough to ſatisfy the underſtanding. But this, I ſay, is more from our cuſtom of uſing them, and the eſtabliſhment they have got in our minds, by our often thinking of them, than from the different evidence of the things. But before cuſtom has ſettled methods of thinking and reaſoning in our minds, I am apt to imagine it is quite otherwiſe; and that the child *when* a part of his apple is taken away, knows it better *in that* particular inſtance, than by this general propoſition

ſition, the whole is equal to all its parts; and that if one of theſe have need to be confirmed to him by the other, the general has more need to be let into his mind by the particular, than the particular by the general. For in particulars our knowledge begins, and ſo ſpreads itſelf by degrees to generals. Though afterwards the mind takes the quite contrary courſe, and having drawn its knowledge into as general propoſitions as it can, makes thoſe familiar to its thoughts, and accuſtoms itſelf to have recourſe to them, as to the ſtandards of truth and falſhood. By which familiar uſe of them, as rules to meaſure the truth of other propoſitions, it comes in time to be thought, that more particular propoſitions have their truth and evidence from their conformity to theſe more general ones, which in diſcourſe and argumentation are ſo frequently urged, and conſtantly admitted. And this I think to be the reaſon why amongſt ſo many ſelf-evident propoſitions, the moſt general only have had the title of maxims.

Maxims, if care be not taken in the uſe of words, may prove contradictions.

§. 12. One thing farther, I think, it may not be amiſs to obſerve concerning theſe general maxims, that they are ſo far from improving or eſtabliſhing our minds in true knowledge, that if our notions be wrong, looſe or unſteady, and we reſign up our thoughts to the ſound of words, rather than fix them on ſettled determined ideas of things; I ſay, theſe general maxims will ſerve to confirm us in miſtakes; and in ſuch a way of uſe of words, which is moſt common, will ſerve to prove contradictions: v. g. he that, with Des Cartes, ſhall frame in his mind an idea of what he calls body to be nothing but extenſion, may eaſily demonſtrate that there is no vacuum, i. e. no ſpace void of body, by this maxim, what is, is. For the idea to which he annexes the name body, being bare extenſion, his knowledge, that ſpace cannot be without body, is certain. For he knows his own idea of extenſion clearly and diſtinctly, and knows that it is what it is, and not another idea, though it be called by theſe three names, extenſion, body, ſpace. Which three words, ſtanding for one and the ſame idea, may no doubt, with

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the ſame evidence and certainty, be affirmed one of another, as each of itſelf: and it is as certain, that whilſt I uſe them all to ſtand for one and the ſame idea, this predication is as true and identical in its ſignification, that ſpace is body, as this predication is true and identical, that body is body, both in ſignification and ſound.

Inſtance in vacuum.

§. 13. But if another ſhould come, and make to himſelf another idea, different from Des Cartes's, of the thing, which yet, with Des Cartes, he calls by the ſame name body; and make his idea, which he expreſſes by the word body, to be of a thing that hath both extenſion and ſolidity together; he will as eaſily demonſtrate, that there may be a vacuum, or ſpace without a body, as Des Cartes demonſtrated the contrary. Becauſe the idea to which he gives the name ſpace being barely the ſimple one of extenſion; and the idea to which he gives the name body, being the complex idea of extenſion and reſiſtibility, or ſolidity, together in the ſame ſubject; theſe two ideas are not exactly one and the ſame, but in the underſtanding as diſtinct as the ideas of one and two, white and black, or as of corporeity and humanity, if I may uſe thoſe barbarous terms: and therefore the predication of them in our minds, or in words ſtanding for them, is not identical, but the negation of them one of another; viz. this propoſition, extenſion or ſpace is not body, is as true and evidently certain, as this maxim, it is impoſſible for the ſame thing to be, and not to be, can make any propoſition.

They prove not the exiſtence of things without us.

§. 14. But yet though both theſe propoſitions (as you ſee) may be equally demonſtrated, viz. that there may be a vacuum, and that there cannot be a vacuum, by theſe two certain principles, viz. what is, is; and the ſame thing cannot be, and not be: yet neither of theſe principles will ſerve to prove to us, that any, or what bodies do exiſt: for that we are left to our ſenſes, to diſcover to us as far as they can. Thoſe univerſal and ſelf-evident principles, being only our conſtant, clear, and diſtinct knowledge of our own ideas, more *general* or comprehenſive, can aſſure us of nothing that

paſſes without the mind; their certainty is founded only upon the knowledge we have of each idea by itſelf, and of its diſtinction from others; about which we cannot be miſtaken whilſt they are in our minds, though we may, and often are miſtaken when we retain the names without the ideas; or uſe them confuſedly ſometimes for one, and ſometimes for another idea. In which caſes the force of theſe axioms, reaching only to the ſound, and not the ſignification of the words, ſerves only to lead us into confuſion, miſtake, and errour. It is to ſhow men, that theſe maxims, however cried up for the great guards of truth, will not ſecure them from errour in a careleſs looſe uſe of their words, that I have made this remark. In all that is here ſuggeſted concerning their little uſe for the improvement of knowledge, or dangerous uſe in undetermined ideas, I have been far enough from ſaying or intending they ſhould be laid aſide, as ſome have been too forward to charge me. I affirm them to be truths, ſelf-evident truths; and ſo cannot be laid aſide. As far as their influence will reach, it is in vain to endeavour, nor will I attempt to abridge it. But yet, without any injury to truth or knowledge, I may have reaſon to think their uſe is not anſwerable to the great ſtreſs which ſeems to be laid on them; and I may warn men not to make an ill uſe of them, for the confirming themſelves in errours.

Their application dangerous about complex ideas.

§. 15. But let them be of what uſe they will in verbal propoſitions, they cannot diſcover or prove to us the leaſt knowledge of the nature of ſubſtances, as they are found and exiſt without us, any farther than grounded on experience. And though the conſequence of theſe two propoſitions, called principles, be very clear, and their uſe not dangerous or hurtful, in the probation of ſuch things, wherein there is no need at all of them for proof, but ſuch as are clear by themſelves without them, viz. where our ideas are determined, and known by the names that ſtand for them: yet when theſe principles, viz. what is, is; and it is impoſſible for the ſame thing to be, and not to be; are made uſe of in the probation of propoſitions, wherein are words ſtand-

ſtanding for complex ideas; v. g. man, horſe, gold, virtue; there they are of infinite danger, and moſt commonly make men receive and retain falſhood for manifeſt truth, and uncertainty for demonſtration: upon which follow errour, obſtinacy, and all the miſchiefs that can happen, from wrong reaſoning. The reaſon whereof is not, that theſe principles are leſs true, or of leſs force in proving propoſitions made of terms ſtanding for complex ideas, than where the propoſitions are about ſimple ideas. But becauſe men miſtake generally, thinking that where the ſame terms are preſerved, the propoſitions are about the ſame things, though the ideas they ſtand for are in truth different; therefore theſe maxims are made uſe of to ſupport thoſe, which in ſound and appearance are contradictory propoſitions; as is clear in the demonſtrations above-mentioned about a vacuum. So that whilſt men take words for things, as uſually they do, theſe maxims may and do commonly ſerve to prove contradictory propoſitions: as ſhall yet be farther made manifeſt.

Inſtance in man.

§. 16. For inſtance, let man be that concerning which you would by theſe firſt principles demonſtrate any thing, and we ſhall ſee, that ſo far as demonſtration is by theſe principles, it is only verbal, and gives us no certain univerſal true propoſition, or knowledge of any being exiſting without us. Firſt, a child having framed the idea of a man, it is probable that his idea is juſt like that picture, which the painter makes of the viſible appearances joined together; and ſuch a complication of ideas together in his underſtanding, makes up the ſingle complex idea, which he calls man, whereof white or fleſh-colour in England being one, the child can demonſtrate to you that a negroe is not a man, becauſe white colour was one of the conſtant ſimple ideas of the complex idea he calls man: and therefore he can demonſtrate by the principle, it is impoſſible for the ſame thing to be, and not to be, that a negroe is not a man; the foundation of his certainty being not that univerſal propoſition, which perhaps he never heard nor thought of, but the clear diſtinct perception he hath of his own ſimple ideas of black

and

and white, which he cannot be perſuaded to take, nor can ever miſtake one for another, whether he knows that maxim or no: and to this child, or any one who hath ſuch an idea, which he calls man, can you never demonſtrate that a man hath a ſoul, becauſe his idea of man includes no ſuch notion or idea in it. And therefore to him, the principle of what is, is, proves not this matter; but it depends upon collection and obſervation, by which he is to make his complex idea called man.

§. 17. Secondly, another that hath gone farther in framing and collecting the idea he calls man, and to the outward ſhape adds laughter and rational diſcourſe, may demonſtrate that infants and changelings are no men, by this maxim, it is impoſſible for the ſame thing to be, and not to be: and I have diſcourſed with very rational men, who have actually denied that they are men.

§. 18. Thirdly, perhaps another makes up the complex idea which he calls man, only out of the ideas of body in general, and the powers of language and reaſon, and leaves out the ſhape wholly: this man is able to demonſtrate, that a man may have no hands, but be quadrupes, neither of thoſe being included in his idea of man; and in whatever body or ſhape he found ſpeech and reaſon joined, that was a man: becauſe having a clear knowledge of ſuch a complex idea, it is certain that what is, is.

Little uſe of theſe maxims in proofs where we have clear and diſtinct ideas.

§. 19. So that, if rightly conſidered, I think we may ſay, that where our ideas are determined in our minds, and have annexed to them by us known and ſteady names under thoſe ſettled determinations, there is little need or no uſe at all of theſe maxims, to prove the agreement or diſagreement of any of them. He that cannot diſcern the truth or falſhood of ſuch propoſitions, without the help of theſe and the like maxims, will not be helped by theſe maxims to do it: ſince he cannot be ſuppoſed to know the truth of theſe maxims themſelves without proof, if he cannot know the truth of others without proof, which are as ſelf-evident as theſe. Upon this ground it is, that intuitive knowledge neither requires nor admits

any

any proof, one part of it more than another. He that will ſuppoſe it does, takes away the foundation of all knowledge and certainty: and he that needs any proof to make him certain, and give his aſſent to this propoſition, that two are equal to two, will alſo have need of a proof to make him admit, that what is, is. He that needs a probation to convince him, that two are not three, that white is not black, that a triangle is not a circle, &c. or any other two determined diſtinct ideas are not one and the ſame, will need alſo a demonſtration to convince him, that it is impoſſible for the ſame thing to be, and not to be.

Their uſe dangerous where our ideas are confuſed.

§. 20. And as theſe maxims are of little uſe, where we have determined ideas, ſo they are, as I have ſhowed, of dangerous uſe, where our ideas are not determined; and where we uſe words that are not annexed to determined ideas, but ſuch as are of a looſe and wandering ſignification, ſometimes ſtanding for one, and ſometimes for another idea: from which follow miſtake and errour, which theſe maxims (brought as proofs to eſtabliſh propoſitions, wherein the terms ſtand for undetermined ideas) do by their authority confirm and rivet.

CHAP. VIII.

Of Trifling Propoſitions.

Some propoſitions bring no increaſe to our knowledge.

§. 1. WHETHER the maxims treated of in the foregoing chapter be of that uſe to real knowledge, as is generally ſuppoſed, I leave to be conſidered. This, I think, may confidently be affirmed, that there are univerſal propoſitions; which though they be certainly true, yet they add no light to our underſtandings, bring no increaſe to our knowledge. Such *are,*

§. 2.

§. 2. Firſt, all purely identical propoſitions. Theſe obviouſly, and at firſt bluſh, appear to contain no inſtruction in them. For when we affirm the ſaid term of itſelf, whether it be barely verbal, or whether it contains any clear and real idea, it ſhows us nothing but what we muſt certainly know before, whether ſuch a propoſition be either made by or propoſed to us. Indeed that moſt general one, what is, is, may ſerve ſometimes to ſhow a man the abſurdity he is guilty of, when by circumlocution, or equivocal terms, he would, in particular inſtances, deny the ſame thing of itſelf; becauſe no-body will ſo openly bid defiance to common ſenſe, as to affirm viſible and direct contradictions in plain words; or if he does, a man is excuſed if he breaks off any farther diſcourſe with him. But yet, I think, I may ſay, that neither that received maxim, nor any other identical propoſition teaches us any thing: and though in ſuch kind of propoſitions, this great and magnified maxim, boaſted to be the foundation of demonſtration, may be and often is made uſe of to confirm them; yet all it proves amounts to no more than this, that the ſame word may with great certainty be affirmed of itſelf, without any doubt of the truth of any ſuch propoſition; and let me add alſo, without any real knowledge. As firſt, identical propoſitions.

§. 3. For at this rate, any very ignorant perſon, who can but make a propoſition, and knows what he means when he ſays, ay, or no, may make a million of propoſitions, of whoſe truth he may be infallibly certain, and yet not know one thing in the world thereby; v. g. what is a ſoul, is a ſoul; or a ſoul is a ſoul; a ſpirit is a ſpirit; a fetiche is a fetiche, &c. Theſe all being equivalent to this propoſition, viz. what is, is, i. e. what hath exiſtence, hath exiſtence; or who hath a ſoul, hath a ſoul. What is this more than trifling with words? It is but like a monkey ſhifting his oyſter from one hand to the other; and had he but words, might, no doubt, have ſaid, "oyſter in right hand is ſubject, and oyſter in left hand is predicate:" and ſo might have made a ſelf-evident propoſition of oyſter, i. e. oyſter is oyſter; and yet, with all this, not have been one whit the wiſer or

more knowing: and that way of handling the matter would much at one have ſatisfied the monkey's hunger, or a man's underſtanding; and they would have improved in knowledge and bulk together.

I know there are ſome who, becauſe identical propoſitions are ſelf-evident, ſhow a great concern for them, and think they do great ſervice to philoſophy by crying them up, as if in them was contained all knowledge, and the underſtanding were led into all truth by them only; I grant as forwardly as any one, that they are all true and ſelf-evident. I grant farther, that the foundation of all our knowledge lies in the faculty we have of perceiving the ſame idea to be the ſame, and of diſcerning it from thoſe that are different, as I have ſhown in the foregoing chapter. But how that vindicates the making uſe of identical propoſitions, for the improvement of knowledge, from the imputation of trifling, I do not ſee. Let any one repeat, as often as he pleaſes, that the will is the will, or lay what ſtreſs on it he thinks fit; of what uſe is this, and an infinite the like propoſitions, for the enlarging our knowledge? Let a man abound, as much as the plenty of words which he has will permit, in ſuch propoſitions as theſe; a law is a law, and obligation is obligation; right is right, and wrong is wrong: will theſe and the like ever help him to an acquaintance with ethicks? or inſtruct him or others in the knowledge of morality? Thoſe who know not, nor perhaps ever will know, what is right and what is wrong, nor the meaſures of them; can with as much aſſurance make, and infallibly know the truth of, theſe and all ſuch propoſitions, as he that is beſt inſtructed in morality can do. But what advance do ſuch propoſitions give in the knowledge of any thing neceſſary or uſeful for their conduct?

He would be thought to do little leſs than trifle, who, for the enlightening the underſtanding in any part of knowledge, ſhould be buſy with identical propoſitions, and inſiſt on ſuch maxims as theſe: ſubſtance is ſubſtance, and body is body; a vacuum is a vacuum, and a vortex is a vortex; a centaur is a centaur, and a chimera *is a chimera*, &c. For theſe and all ſuch are equally

true,

true, equally certain, and equally ſelf-evident. But yet they cannot but be counted trifling, when made uſe of as principles of inſtruction, and ſtreſs laid on them, as helps to knowledge: ſince they teach nothing but what every one, who is capable of diſcourſe, knows without being told; viz. that the ſame term is the ſame term, and the ſame idea the ſame idea. And upon this account it was that I formerly did, and do ſtill think, the offering and inculcating ſuch propoſitions, in order to give the underſtanding any new light or inlet into the knowledge of things, no better than trifling.

Inſtruction lies in ſomething very different; and he that would enlarge his own, or another's mind, to truths he does not yet know, muſt find out intermediate ideas, and then lay them in ſuch order one by another, that the underſtanding may ſee the agreement or diſagreement of thoſe in queſtion. Propoſitions that do this are inſtructive; but they are far from ſuch as affirm the ſame term of itſelf: which is no way to advance one's ſelf or others, in any ſort of knowledge. It no more helps to that, than it would help any one, in his learning to read, to have ſuch propoſitions as theſe inculcated to him. An A is an A, and a B is a B; which a man may know as well as any ſchool-maſter, and yet never be able to read a word as long as he lives. Nor do theſe, or any ſuch identical propoſitions, help him one jot forwards in the ſkill of reading, let him make what uſe of them he can.

If thoſe who blame my calling them trifling propoſitions, had but read, and been at the pains to underſtand, what I have above writ in very plain Engliſh, they could not but have ſeen that by identical propoſitions I mean only ſuch, wherein the ſame term, importing the ſame idea, is affirmed of itſelf: which I take to be the proper ſignification of identical propoſitions: and concerning all ſuch, I think I may continue ſafely to ſay, that to propoſe them as inſtructive, is no better than trifling. For no one who has the uſe of reaſon can miſs them, where it is neceſſary they ſhould be taken notice of; nor doubt of their truth, when he does take notice of them.

But if men will call propoſitions identical, wherein the ſame term is not affirmed of itſelf, whether they

ſpeak more properly than I, others muſt judge; this is certain, all that they ſay of propoſitions that are not identical in my ſenſe, concerns not me, nor what I have ſaid; all that I have ſaid relating to thoſe propoſitions wherein the ſame term is affirmed of itſelf. And I would fain ſee an inſtance, wherein any ſuch can be made uſe of, to the advantage and improvement of any one's knowledge. Inſtances of other kinds, whatever uſe may be made of them, concern not me, as not being ſuch as I call identical.

Secondly, when a part of any complex idea is predicated of the whole.

§. 4. Secondly, another ſort of trifling propoſitions is, when a part of the complex idea is predicated of the name of the whole; a part of the definition of the word defined. Such are all propoſitions wherein the genus is predicated of the ſpecies, or more comprehenſive of leſs comprehenſive terms: for what information, what knowledge carries this propoſition in it, viz. lead is a metal, to a man who knows the complex idea the name lead ſtands for? all the ſimple ideas that go to the complex one ſignified by the term metal, being nothing but what he before comprehended, and ſignified by the name lead. Indeed, to a man that knows the ſignification of the word metal, and not of the word lead, it is a ſhorter way to explain the ſignification of the word lead, by ſaying it is a metal, which at once expreſſes ſeveral of its ſimple ideas, than to enumerate them one by one, telling him it is a body very heavy, fuſible, and malleable.

As part of the definition of the term defined.

§. 5. Alike trifling it is, to predicate any other part of the definition of the term defined, or to affirm any one of the ſimple ideas of a complex one of the name of the whole complex idea; as, all gold is fuſible. For fuſibility being one of the ſimple ideas that goes to the making up the complex one the ſound gold ſtands for, what can it be but playing with ſounds, to affirm that of the name gold, which is comprehended in its received ſignification? It would be thought little better than ridiculous, to affirm gravely as a truth of moment, that gold *is yellow*; and I ſee not how it is any jot more material

to

to ſay, it is fuſible, unleſs that quality be left out of the complex idea, of which the found gold is the mark in ordinary ſpeech. What inſtruction can it carry with it, to tell one that which he hath been told already, or he is ſuppoſed to know before? For I am ſuppoſed to know the ſignification of the word another uſes to me, or elſe he is to tell me. And if I know that the name gold ſtands for this complex idea of body, yellow, heavy, fuſible, malleable, it will not much inſtruct me to put it ſolemnly afterwards in a propoſition, and gravely ſay, all gold is fuſible. Such propoſitions can only ſerve to ſhow the diſingenuity of one, who will go from the definition of his own terms, by reminding him ſometimes of it; but carry no knowledge with them, but of the ſignification of words, however certain they be.

Inſtance, man and palfry.

§. 6. Every man is an animal, or living body, is as certain a propoſition as can be; but no more conducing to the knowledge of things, than to ſay, a palfry is an ambling horſe, or a neighing ambling animal, both being only about the ſignification of words, and make me know but this; that body, ſenſe and motion, or power of ſenſation and moving, are three of thoſe ideas that I always comprehend and ſignify by the word man; and where they are not to be found together, the name man belongs not to that thing: and ſo of the other, that body, ſenſe, and a certain way of going, with a certain kind of voice, are ſome of thoſe ideas which I always comprehend, and ſignify by the word palfry; and when they are not to be found together, the name palfry belongs not to that thing. It is juſt the ſame, and to the ſame purpoſe, when any term ſtanding for any one or more of the ſimple ideas, that altogether make up that complex idea which is called man, is affirmed of the term man: v. g. ſuppoſe a Roman ſignified by the word homo all theſe diſtinct ideas united in one ſubject, "corporietas, ſenſibilitas, potentia ſe movendi, rationalitas, riſibilitas;" he might, no doubt, with great certainty, univerſally affirm one, more, or all of theſe together of the word homo, but did no more than ſay that the word homo, in his country, comprehended in its ſignification all theſe

ideas. Much like a romance knight, who by the word palfry ſignified theſe ideas; body of a certain figure, four-legged, with ſenſe, motion, ambling, neighing, white, uſed to have a woman on his back; might with the ſame certainty univerſally affirm alſo any or all of theſe of the word palfry: but did thereby teach no more, but that the word palfry, in his or romance language, ſtood for all theſe, and was not to be applied to any thing, where any of theſe was wanting. But he that ſhall tell me, that in whatever thing ſenſe, motion, reaſon, and laughter, were united, that thing had actually a notion of God, or would be caſt into a ſleep by opium, made indeed an inſtructive propoſition: becauſe neither having the notion of God, nor being caſt into ſleep by opium, being contained in the idea ſignified by the word man, we are by ſuch propoſitions taught ſomething more than barely what the word man ſtands for; and therefore the knowledge contained in it is more than verbal.

For this teaches but the ſignification of words.

§. 7. Before a man makes any propoſition, he is ſuppoſed to underſtand the terms he uſes in it, or elſe he talks like a parrot, only making a noiſe by imitation, and framing certain ſounds, which he has learnt of others; but not as a rational creature, uſing them for ſigns of ideas which he has in his mind. The hearer alſo is ſuppoſed to underſtand the terms as the ſpeaker uſes them, or elſe he talks jargon, and makes an unintelligible noiſe. And therefore he trifles with words, who makes ſuch a propoſition, which, when it is made, contains no more than one of the terms does, and which a man was ſuppoſed to know before; v. g. a triangle hath three ſides, or ſaffron is yellow. And this is no farther tolerable, than where a man goes to explain his terms, to one who is ſuppoſed or declares himſelf not to underſtand him: and then it teaches only the ſignification of that word, and the uſe of that ſign.

But no real knowledge.

§. 8. We can know then the truth of two ſorts of propoſitions with perfect certainty; the one is, of thoſe trifling propoſitions *which have* a certainty in them, but it is only a verbal cer-

certainty, but not inſtructive. And, ſecondly, we can know the truth, and ſo may be certain in propoſitions, which affirm ſomething of another, which is a neceſſary conſequence of its preciſe complex idea, but not contained in it: as that the external angle of all triangles is bigger than either of the oppoſite internal angles; which relation of the outward angle to either of the oppoſite internal angles, making no part of the complex idea ſignified by the name triangle, this is a real truth, and conveys with it inſtructive real knowledge.

General propoſitions concerning ſubſtances are often trifling.

§. 9. We having little or no knowledge of what combinations there be of ſimple ideas exiſting together in ſubſtances, but by our ſenſes, we cannot make any univerſal certain propoſitions concerning them, any farther than our nominal eſſences lead us: which being to a very few and inconſiderable truths, in reſpect of thoſe which depend on their real conſtitutions, the general propoſitions that are made about ſubſtances, if they are certain, are for the moſt part but trifling; and if they are inſtructive, are uncertain, and ſuch as we can have no knowledge of their real truth, how much ſoever conſtant obſervation and analogy may aſſiſt our judgment in gueſſing. Hence it comes to paſs, that one may often meet with very clear and coherent diſcourſes, that amount yet to nothing. For it is plain, that names of ſubſtantial beings, as well as others, as far as they have relative ſignifications affixed to them, may, with great truth, be joined negatively and affirmatively in propoſitions, as their relative definitions make them fit to be ſo joined; and propoſitions conſiſting of ſuch terms, may, with the ſame clearneſs, be deduced one from another, as thoſe that convey the moſt real truths: and all this, without any knowledge of the nature or reality of things exiſting without us. By this method one may make demonſtrations and undoubted propoſitions in words, and yet thereby advance not one jot in the knowledge of the truth of things; v. g. he that having learnt theſe following words, with their ordinary mutually relative acceptations annexed to them: v. g. ſubſtance, man, animal, form, ſoul, vegetative, ſenſitive,

rational, may make ſeveral undoubted propoſitions about the ſoul, without knowing at all what the ſoul really is: and of this ſort, a man may find an infinite number of propoſitions, reaſonings, and concluſions, in books of metaphyſicks, ſchool-divinity, and ſome ſort of natural philoſophy; and, after all, know as little of God, ſpirits, or bodies, as he did before he ſet out.

And why.

§. 10. He that hath liberty to define, i. e. to determine the ſignification of his names of ſubſtances (as certainly every one does in effect, who makes them ſtand for his own ideas) and makes their ſignifications at a venture, taking them from his own or other men's fancies, and not from an examination or inquiry into the nature of things themſelves; may, with little trouble, demonſtrate them one of another, according to thoſe ſeveral reſpects and mutual relations he has given them one to another; wherein, however things agree or diſagree in their own nature, he needs mind nothing but his own notions, with the names he hath beſtowed upon them: but thereby no more increaſes his own knowledge, than he does his riches, who, taking a bag of counters, calls one in a certain place a pound, another in another place a ſhilling, and a third in a third place a penny; and ſo proceeding, may undoubtedly reckon right, and caſt up a great ſum, according to his counters ſo placed, and ſtanding for more or leſs as he pleaſes, without being one jot the richer, or without even knowing how much a pound, ſhilling, or penny is, but only that one is contained in the other twenty times, and contains the other twelve: which a man may alſo do in the ſignification of words, by making them, in reſpect of one another, more, or leſs, or equally comprehenſive.

Thirdly, uſing words variouſly is trifling with them.

§. 11. Though yet concerning moſt words uſed in diſcourſes, equally argumentative and controverſial, there is this more to be complained of, which is the worſt ſort of trifling, and which ſets us yet farther from the certainty of knowledge we hope to attain by them, or find in them; viz. that moſt writers are ſo far from *inſtructing* us in the nature and knowledge of things,

that

that they uſe their words looſely and uncertainly, and do not, by uſing them conſtantly and ſteadily in the ſame ſignifications, make plain and clear deductions of words one from another, and make their diſcourſes coherent and clear (how little ſoever they were inſtructive) which were not difficult to do, did they not find it convenient to ſhelter their ignorance or obſtinacy, under the obſcurity and perplexedneſs of their terms: to which, perhaps, inadvertency and ill cuſtom do in many men much contribute.

Marks of verbal propoſitions:

§. 12. To conclude; barely verbal propoſitions may be known by theſe following marks:

1. Predication in abſtract.

Firſt, all propoſitions, wherein two abſtract terms are affirmed one of another, are barely about the ſignification of ſounds. For ſince no abſtract idea can be the ſame with any other but itſelf, when its abſtract name is affirmed of any other term, it can ſignify no more but this, that it may or ought to be called by that name, or that theſe two names ſignify the ſame idea. Thus ſhould any one ſay, that parſimony is frugality, that gratitude is juſtice, that this or that action is or is not temperate; however ſpecious theſe and the like propoſitions may at firſt ſight ſeem, yet when we come to preſs them, and examine nicely what they contain, we ſhall find that it all amounts to nothing but the ſignification of thoſe terms.

2. A part of the definition predicated of any term.

§. 13. Secondly, all propoſitions wherein a part of the complex idea, which any term ſtands for, is predicated of that term, are only verbal; v. g. to ſay that gold is a metal or heavy. And thus all propoſitions, wherein more comprehenſive words, called genera, are affirmed of ſubordinate or leſs comprehenſive, called ſpecies, or individuals, are barely verbal.

When by theſe two rules we have examined the propoſitions that make up the diſcourſes we ordinarily meet with both in and out of books, we ſhall, perhaps, find that a greater part of them, than is uſually ſuſpected, are purely about the ſignification of words, and contain nothing in them, but the uſe and application of theſe ſigns.

This,

This, I think, I may lay down for an infallible rule, that wherever the diſtinct idea any word ſtands for is not known and conſidered, and ſomething not contained in the idea is not affirmed or denied of it; there our thoughts ſtick wholly in ſounds, and are able to attain no real truth or falſhood. This, perhaps, if well heeded, might ſave us a great deal of uſeleſs amuſement and diſpute, and very much ſhorten our trouble and wandering, in the ſearch of real and true knowledge.

CHAP. IX.

Of our Knowledge of Exiſtence.

General certain propoſitions concern not exiſtence.

§. 1. HITHERTO we have only conſidered the eſſences of things, which being only abſtract ideas, and thereby removed in our thoughts from particular exiſtence (that being the proper operation of the mind, in abſtraction, to conſider an idea under no other exiſtence, but what it has in the underſtanding) gives us no knowledge of real exiſtence at all. Where by the way we may take notice, that univerſal propoſitions, of whoſe truth or falſhood we can have certain knowledge, concern not exiſtence; and farther, that all particular affirmations or negations, that would not be certain if they were made general, are only concerning exiſtence; they declaring only the accidental union or ſeparation of ideas in things exiſting, which, in their abſtract natures, have no known neceſſary union or repugnancy.

A threefold knowledge of exiſtence.

§. 2. But, leaving the nature of propoſitions and different ways of predication to be conſidered more at large in another place, let us proceed now to inquire concerning our knowledge of the exiſtence of things, and how we come by it. I ſay then, that we have the knowledge of our own exiſtence by intuition; of the exiſtence of God *by demonſtration*; and of other things by ſenſation.

§. 3.

§. 3. As for our own exiſtence, we perceive it ſo plainly, and ſo certainly, that it neither needs nor is capable of any proof. For nothing can be more evident to us, than our own exiſtence; I think, I reaſon, I feel pleaſure and pain: can any of theſe be more evident to me, than my own exiſtence? if I doubt of all other things, that very doubt makes me perceive my own exiſtence, and will not ſuffer me to doubt of that. For if I know I feel pain, it is evident I have as certain perception of my own exiſtence, as of the exiſtence of the pain I feel: or if I know I doubt, I have as certain perception of the exiſtence of the thing doubting, as of that thought which I call doubt. Experience then convinces us, that we have an intuitive knowledge of our own exiſtence, and an internal infallible perception that we are. In every act of ſenſation, reaſoning, or thinking, we are conſcious to ourſelves of our own being; and, in this matter, come not ſhort of the higheſt degree of certainty.

Our knowledge of our own exiſtence is intuitive.

CHAP. X.

Of our Knowledge of the Exiſtence of a God.

§. 1. THOUGH God has given us no innate ideas of himſelf; though he has ſtamped no original characters on our minds, wherein we may read his being; yet having furniſhed us with thoſe faculties our minds are endowed with, he hath not left himſelf without witneſs: ſince we have ſenſe, perception, and reaſon, and cannot want a clear proof of him, as long as we carry ourſelves about us. Nor can we juſtly complain of our ignorance in this great point, ſince he has ſo plentifully provided us with the means to diſcover and know him, ſo far as is neceſſary to the end of our being, and the great concernment of our happineſs. But though this be the moſt obvious truth

We are capable of knowing certainly that there is a God.

that

that reaſon diſcovers; and though its evidence be (if I miſtake not) equal to mathematical certainty: yet it requires thought and attention, and the mind muſt apply itſelf to a regular deduction of it from ſome part of our intuitive knowledge, or elſe we ſhall be as uncertain and ignorant of this as of other propoſitions, which are in themſelves capable of clear demonſtration. To ſhow therefore that we are capable of knowing, i. e. being certain that there is a God, and how we may come by this certainty, I think we need go no farther than ourſelves, and that undoubted knowledge we have of our own exiſtence.

Man knows that he himſelf is.

§. 2. I think it is beyond queſtion, that man has a clear idea of his own being; he knows certainly he exiſts, and that he is ſomething. He that can doubt, whether he be any thing or no, I ſpeak not to, no more than I would argue with pure nothing, or endeavour to convince non-entity, that it were ſomething. If any one pretends to be ſo ſceptical, as to deny his own exiſtence (for really to doubt of it is manifeſtly impoſſible) let him for me enjoy his beloved happineſs of being nothing, until hunger, or ſome other pain, convince him of the contrary. This then, I think, I may take for a truth, which every one's certain knowledge aſſures him of, beyond the liberty of doubting, viz. that he is ſomething that actually exiſts.

He knows alſo that nothing cannot produce a being, therefore ſomething eternal.

§. 3. In the next place, man knows by an intuitive certainty, that bare nothing can no more produce any real being, than it can be equal to two right angles. If a man knows not that non-entity, or the abſence of all being, cannot be equal to two right angles, it is impoſſible he ſhould know any demonſtration in Euclid. If therefore we know there is ſome real being, and that non-entity cannot produce any real being, it is an evident demonſtration, that from eternity there has been ſomething; ſince what was not from eternity had a beginning; and what had a beginning muſt be produced by ſomething elſe.

§. 4.

That eternal being muſt be moſt powerful.

§. 4. Next, it is evident, that what had its being and beginning from another, muſt alſo have all that which is in, and belongs to its being, from another too. All the powers it has muſt be owing to, and received from, the ſame ſource. This eternal ſource then of all being muſt alſo be the ſource and original of all power; and ſo this eternal being muſt be alſo the moſt powerful.

And moſt knowing

§. 5. Again, a man finds in himſelf perception and knowledge. We have then got one ſtep farther; and we are certain now, that there is not only ſome being, but ſome knowing intelligent being in the world.

There was a time then, when there was no knowing being, and when knowledge began to be; or elſe there has been alſo a knowing being from eternity. If it be ſaid, there was a time when no being had any knowledge, when that eternal being was void of all underſtanding; I reply, that then it was impoſſible there ſhould ever have been any knowledge: it being as impoſſible that things wholly void of knowledge, and operating blindly, and without any perception, ſhould produce a knowing being, as it is impoſſible that a triangle ſhould make itſelf three angles bigger than two right ones. For it is as repugnant to the idea of ſenſeleſs matter, that it ſhould put into itſelf, ſenſe, perception, and knowledge, as it is repugnant to the idea of a triangle, that it ſhould put into itſelf greater angles than two right ones.

And therefore God.

§. 6. Thus from the conſideration of ourſelves, and what we infallibly find in our own conſtitutions, our reaſon leads us to the knowledge of this certain and evident truth, that there is an eternal, moſt powerful, and moſt knowing being; which whether any one will pleaſe to call God, it matters not. The thing is evident, and from this idea duly conſidered, will eaſily be deduced all thoſe other attributes, which we ought to aſcribe to this eternal being. If nevertheleſs any one ſhould be found ſo ſenſeleſly arrogant, as to ſuppoſe man alone knowing and wiſe, but yet the product of mere ignorance and chance; and that all the reſt of the univerſe acted

only

only by that blind hap-hazard: I ſhall leave with him that very rational and emphatical rebuke of Tully, l. ii. de leg. to be conſidered at his leiſure: "what can be "more ſillily arrogant and miſbecoming, than for a "man to think that he has a mind and underſtanding "in him, but yet in all the univerſe beſide there is no "ſuch thing? Or that thoſe things, which with the "utmoſt ſtretch of his reaſon he can ſcarce comprehend, "ſhould be moved and managed without any reaſon at "all? "Quid eſt enim verius, quam neminem eſſe "oportere tam ſtulte arrogantem, ut in ſe mentem & "rationem putet ineſſe, in cœlo mundoque non putet? "Aut ea quæ vix ſumma ingenii natione comprehendat, "nulla ratione moveri putet?"

From what has been ſaid, it is plain to me, we have a more certain knowledge of the exiſtence of a God, than of any thing our ſenſes have not immediately diſcovered to us. Nay, I preſume I may ſay, that we more certainly know that there is a God, than that there is any thing elſe without us. When I ſay we know, I mean there is ſuch a knowledge within our reach which we cannot miſs, if we will but apply our minds to that, as we do to ſeveral other inquiries.

Our idea of a moſt perfect being not the ſole proof of a God.

§. 7. How far the idea of a moſt perfect being, which a man may frame in his mind, does or does not prove the exiſtence of a God, I will not here examine. For in the different make of men's tempers and application of their thoughts, ſome arguments prevail more on one, and ſome on another, for the confirmation of the ſame truth. But yet, I think, this I may ſay, that it is an ill way of eſtabliſhing this truth, and ſilencing atheiſts, to lay the whole ſtreſs of ſo important a point as this upon that ſole foundation; and take ſome men's having that idea of God in their minds (for it is evident ſome men have none, and ſome worſe than none, and the moſt very different) for the only proof of a deity: and out of an over-fondneſs of that darling invention caſhier, or at leaſt endeavour to invalidate all other arguments, and forbid us to hearken to thoſe proofs, as being weak or fallacious, which our own exiſtence and the

the ſenſible parts of the univerſe offer ſo clearly and cogently to our thoughts, that I deem it impoſſible for a conſidering man to withſtand them. For I judge it as certain and clear a truth, as can any where be delivered, that the inviſible things of God are clearly ſeen from the creation of the world, being underſtood by the things that are made, even his eternal power and godhead. Though our own being furniſhes us, as I have ſhown, with an evident and inconteſtible proof of a deity; and I believe no-body can avoid the cogency of it, who will but as carefully attend to it, as to any other demonſtration of ſo many parts: yet this being ſo fundamental a truth, and of that conſequence, that all religion and genuine morality depend thereon, I doubt not but I ſhall be forgiven by my reader, if I go over ſome parts of this argument again, and enlarge a little more upon them.

Something from eternity.

§. 8. There is no truth more evident, than that ſomething muſt be from eternity. I never yet heard of any one ſo unreaſonable, or that could ſuppoſe ſo manifeſt a contradiction, as a time wherein there was perfectly nothing: this being of all abſurdities the greateſt, to imagine that pure nothing, the perfect negation and abſence of all beings, ſhould ever produce any real exiſtence.

It being then unavoidable for all rational creatures to conclude, that ſomething has exiſted from eternity; let us next ſee what kind of thing that muſt be.

Two ſorts of beings, cogitative and incogitative.

§. 9. There are but two ſorts of beings in the world, that man knows or conceives.

Firſt, ſuch as are purely material, without ſenſe, perception or thought, as the clippings of our beards, and parings of our nails.

Secondly, ſenſible, thinking, perceiving beings, ſuch as we find ourſelves to be, which, if you pleaſe, we will hereafter call cogitative and incogitative beings; which to our preſent purpoſe, if for nothing elſe, are, perhaps, better terms than material and immaterial.

Incogitative being cannot produce a cogitative.

§. 10. If then there muſt be ſomething eternal, let us ſee what ſort of being it muſt be. And to that, it is very obvious to reaſon, that it muſt neceſſarily be a cogitative

being. For it is as impoſſible to conceive, that ever bare incogitative matter ſhould produce a thinking intelligent being, as that nothing ſhould of itſelf produce matter. Let us ſuppoſe any parcel of matter eternal, great or ſmall, we ſhall find it, in itſelf, able to produce nothing. For example; let us ſuppoſe the matter of the next pebble we meet with eternal, cloſely united, and the parts firmly at reſt together; if there were no other being in the world, muſt it not eternally remain ſo, a dead inactive lump? Is it poſſible to conceive it can add motion to itſelf, being purely matter, or produce any thing? Matter then, by its own ſtrength, cannot produce in itſelf ſo much as motion: the motion it has muſt alſo be from eternity, or elſe be produced, and added to matter by ſome other being more powerful than matter; matter, as is evident, having not power to produce motion in itſelf. But let us ſuppoſe motion eternal too; yet matter, incogitative matter and motion, whatever changes it might produce of figure and bulk, could never produce thought: knowledge will ſtill be as far beyond the power of motion and matter to produce, as matter is beyond the power of nothing or nonentity to produce. And I appeal to every one's own thoughts, whether he cannot as eaſily conceive matter produced by nothing, as thought to be produced by pure matter, when before there was no ſuch thing as thought, or an intelligent being exiſting? Divide matter into as minute parts as you will (which we are apt to imagine a ſort of ſpiritualizing, or making a thinking thing of it) vary the figure and motion of it as much as you pleaſe; a globe, cube, cone, priſm, cylinder, &c. whoſe diameters are but 10000000th part of a gry*, will operate no otherwiſe upon other bodies of proportionable bulk, than thoſe of an inch or foot diameter; and

* A gry is $\frac{1}{10}$ of a line, a line $\frac{1}{10}$ of an inch, an inch $\frac{1}{10}$ of a philoſophical foot, a philoſophical foot $\frac{1}{3}$ of a pendulum, whoſe diadroms, in the latitude of 45 degrees, are each equal to one ſecond of time or $\frac{1}{60}$ of a minute. I have affectedly made uſe of this meaſure here, and the parts of it, under a decimal diviſion, with names to them; becauſe, I think, it would be of general convenience, that this ſhould be the common meaſure, in the commonwealth of letters.

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you may as rationally expect to produce ſenſe, thought, and knowledge, by putting together, in a certain figure and motion, groſs particles of matter, as by thoſe that are the very minuteſt, that do any where exiſt. They knock, impel, and reſiſt one another, juſt as the greater do, and that is all they can do. So that if we will ſuppoſe nothing firſt, or eternal; matter can never begin to be: if we ſuppoſe bare matter, without motion, eternal; motion can never begin to be: if we ſuppoſe only matter and motion firſt, or eternal; thought can never begin to be. For it is impoſſible to conceive that matter, either with or without motion, could have originally in and from itſelf ſenſe, perception and knowledge; as is evident from hence, that then ſenſe, perception and knowledge muſt be a property eternally inſeparable from matter and every particle of it. Not to add, that though our general or ſpecific conception of matter makes us ſpeak of it as one thing, yet really all matter is not one individual thing, neither is there any ſuch thing exiſting as one material being, or one ſingle body that we know or can conceive. And therefore if matter were the eternal firſt cogitative being, there would not be one eternal infinite cogitative being, but an infinite number of eternal finite cogitative beings, independent one of another, of limited force and diſtinct thoughts, which could never produce that order, harmony and beauty which are to be found in nature. Since therefore whatſoever is the firſt eternal being muſt neceſſarily be cogitative; and whatſoever is firſt of all things muſt neceſſarily contain in it, and actually have, at leaſt, all the perfections that can ever after exiſt; nor can it ever give to another any perfection that it hath not, either actually in itſelf, or at leaſt in a higher degree; it neceſſarily follows, that the firſt eternal being cannot be matter.

Therefore there has been an eternal wiſdom.

§. 11. If therefore it be evident, that ſomething neceſſarily muſt exiſt from eternity, it is alſo as evident, that that ſomething muſt neceſſarily be a cogitative being: for it is as impoſſible that incogitative matter ſhould produce a cogitative being, as that nothing, or the ne-

gation of all being, ſhould produce a poſitive being or matter.

§. 12. Though this diſcovery of the neceſſary exiſtence of an eternal mind does ſufficiently lead us into the knowledge of God; ſince it will hence follow, that all other knowing beings that have a beginning muſt depend on him, and have no other ways of knowledge, or extent of power, than what he gives them; and therefore if he made thoſe, he made alſo the leſs excellent pieces of this univerſe, all inanimate beings, whereby his omniſcience, power, and providence will be eſtabliſhed, and all his other attributes neceſſarily follow: yet to clear up this a little farther, we will ſee what doubts can be raiſed againſt it.

Whether material or no.

§. 13. Firſt, perhaps it will be ſaid, that though it be as clear as demonſtration can make it, that there muſt be an eternal being, and that being muſt alſo be knowing; yet it does not follow, but that thinking being may alſo be material. Let it be ſo; it equally ſtill follows, that there is a God. For if there be an eternal, omniſcient, omnipotent being, it is certain that there is a God, whether you imagine that being to be material or no. But herein, I ſuppoſe, lies the danger and deceit of that ſuppoſition: there being no way to avoid the demonſtration, that there is an eternal knowing being, men, devoted to matter, would willingly have it granted, that this knowing being is material; and then letting ſlide out of their minds, or the diſcourſe, the demonſtration whereby an eternal knowing being was proved neceſſarily to exiſt, would argue all to be matter, and ſo deny a God, that is, an eternal cogitative being; whereby they are ſo far from eſtabliſhing, that they deſtroy their own hypotheſis. For if there can be, in their opinion, eternal matter, without any eternal cogitative being, they manifeſtly ſeparate matter and thinking, and ſuppoſe no neceſſary connexion of the one with the other, and ſo eſtabliſh the neceſſity of an eternal ſpirit, but not of matter; ſince it has been proved already, that an eternal cogitative being is unavoidably to be granted. Now if thinking and matter may be ſeparated, the eternal exiſtence of

of matter will not follow from the eternal exiſtence of a cogitative being, and they ſuppoſe it to no purpoſe.

Not material. 1. Becauſe every particle of matter is not cogitative.

§. 14. But now let us ſuppoſe they can ſatisfy themſelves or others, that this eternal thinking being is material.

Firſt, I would aſk them, Whether they imagine, that all matter, every particle of matter, thinks? This, I ſuppoſe, they will ſcarce ſay; ſince then there would be as many eternal thinking beings as there are particles of matter, and ſo an infinity of gods. And yet if they will not allow matter as matter, that is, every particle of matter to be as well cogitative as extended, they will have as hard a taſk to make out to their own reaſons a cogitative being out of incogitative particles, as an extended being out of unextended parts, if I may ſo ſpeak.

2. One particle alone of matter cannot be cogitative.

§. 15. Secondly, if all matter does not think, I next aſk, "Whether it be only one "atom that does ſo?" This has as many abſurdities as the other; for then this atom of matter muſt be alone eternal or not. If this alone be eternal, then this alone, by its powerful thought or will, made all the reſt of matter. And ſo we have the creation of matter by a powerful thought, which is that the materialiſts ſtick at. For if they ſuppoſe one ſingle thinking atom to have produced all the reſt of matter, they cannot aſcribe that pre-eminency to it upon any other account than that of its thinking, the only ſuppoſed difference. But allow it to be by ſome other way, which is above our conception, it muſt ſtill be creation, and theſe men muſt give up their great maxim, "ex nihilo nil fit." If it be ſaid, that all the reſt of matter is equally eternal, as that thinking atom, it will be to ſay any thing at pleaſure, though ever ſo abſurd: for to ſuppoſe all matter eternal, and yet one ſmall particle in knowledge and power infinitely above all the reſt, is without any the leaſt appearance of reaſon to frame an hypotheſis. Every particle of matter, as matter, is capable of all the ſame figures and motions of any other; and I challenge any one, in his thoughts, to add any thing elſe to one above another.

3. A ſyſtem of incogitative matter cannot be cogitative.

§. 16. If then neither one peculiar atom alone can be this eternal thinking being; nor all matter as matter, i. e. every particle of matter, can be it; it only remains, that it is ſome certain ſyſtem of matter duly put together, that is this thinking eternal being. This is that, which, I imagine, is that notion which men are apteſt to have of God; who would have him a material being, as moſt readily ſuggeſted to them, by the ordinary conceit they have of themſelves, and other men, which they take to be material thinking beings. But this imagination, however more natural, is no leſs abſurd than the other: for to ſuppoſe the eternal thinking being to be nothing elſe but a compoſition of particles of matter each whereof is cogitative, is to aſcribe all the wiſdom and knowledge of that eternal being only to the juxta-poſition of parts; than which nothing can be more abſurd. For unthinking particles of matter, however put together, can have nothing thereby added to them, but a new relation of poſition, which it is impoſſible ſhould give thought and knowledge to them.

Whether in motion or at reſt.

§. 17. But farther, this corporeal ſyſtem either has all its parts at reſt, or it is a certain motion of the parts wherein its thinking conſiſts. If it be perfectly at reſt, it is but one lump, and ſo can have no privileges above one atom.

If it be the motion of its parts, on which its thinking depends, all the thoughts there muſt be unavoidably accidental and limited; ſince all the particles that by motion cauſe thought, being each of them in itſelf without any thought, cannot regulate its own motions, much leſs be regulated by the thought of the whole: ſince that thought is not the cauſe of motion (for then it muſt be antecedent to it, and ſo without it) but the conſequence of it, whereby freedom, power, choice, and all rational and wiſe thinking or acting, will be quite taken away: ſo that ſuch a thinking being will be no better nor wiſer than pure blind matter; ſince to reſolve all into the accidental unguided motions of blind matter, or into thought depending on unguided motions of blind matter,

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is the ſame thing; not to mention the narrowneſs of ſuch thoughts and knowledge that muſt depend on the motion of ſuch parts. But there needs no enumeration of any more abſurdities and impoſſibilities in this hypotheſis (however full of them it be) than that before-mentioned; ſince let this thinking ſyſtem be all, or a part of the matter of the univerſe, it is impoſſible that any one particle ſhould either know its own, or the motion of any other particle, or the whole know the motion of every particle; and ſo regulate its own thoughts or motions, or indeed have any thought reſulting from ſuch motion.

Matter not co-eternal with an eternal mind.

§. 18. Others would have matter to be eternal, notwithſtanding that they allow an eternal, cogitative immaterial being. This, though it take not away the being of a God, yet ſince it denies one and the firſt great piece of his workmanſhip, the creation, let us conſider it a little. Matter muſt be allowed eternal: Why? becauſe you cannot conceive how it can be made out of nothing; why do you not alſo think yourſelf eternal? You will anſwer perhaps, becauſe about twenty or forty years ſince you began to be. But if I aſk you what that you is, which began then to be, you can ſcarce tell me. The matter, whereof you are made, began not then to be; for if it did, then it is not eternal: but it began to be put together in ſuch a faſhion and frame as makes up your body; but yet that frame of particles is not you, it makes not that thinking thing you are; (for I have now to do with one who allows an eternal, immaterial, thinking being, but would have unthinking matter eternal too) therefore when did that thinking thing begin to be? If it did never begin to be, then have you always been a thinking thing from eternity; the abſurdity whereof I need not confute, till I meet with one who is ſo void of underſtanding as to own it. If therefore you can allow a thinking thing to be made out of nothing (as all things that are not eternal muſt be) why alſo can you not allow it poſſible, for a material being to be made out of nothing, by an equal power, but that you have the experience of the one in view, and not of

the other? Though, when well conſidered, creation of a ſpirit will be found to require no leſs power than the creation of matter. Nay poſſibly, if we would emancipate ourſelves from vulgar notions, and raiſe our thoughts as far as they would reach, to a cloſer contemplation of things, we might be able to aim at ſome dim and ſeeming conception how matter might at firſt be made, and begin to exiſt by the power of that eternal firſt being: but to give beginning and being to a ſpirit, would be found a more inconceivable effect of omnipotent power. But, this being what would perhaps lead us too far from the notions on which the philoſophy now in the world is built, it would not be pardonable to deviate ſo far from them; or to inquire, ſo far as grammar itſelf would authorize, if the common ſettled opinion oppoſes it: eſpecially in this place, where the received doctrine ſerves well enough to our preſent purpoſe, and leaves this paſt doubt, that the creation or beginning of any one ſubſtance out of nothing, being once admitted, the creation of all other, but the Creator himſelf, may, with the ſame eaſe, be ſuppoſed.

§. 19. But you will ſay, is it not impoſſible to admit of the making any thing out of nothing, ſince we cannot poſſibly conceive it? I anſwer, No: 1. Becauſe it is not reaſonable to deny the power of an infinite being, becauſe we cannot comprehend its operations. We do not deny other effects upon this ground, becauſe we cannot poſſibly conceive the manner of their production. We cannot conceive how any thing but impulſe of body can move body; and yet that is not a reaſon ſufficient to make us deny it impoſſible, againſt the conſtant experience we have of it in ourſelves, in all our voluntary motions, which are produced in us only by the free action or thought of our own minds; and are not, nor can be the effects of the impulſe or determination of the motion of blind matter in or upon our own bodies; for then it could not be in our power or choice to alter it. For example: my right hand writes, whilſt my left hand is ſtill: what cauſes reſt in one, and motion in the other? Nothing but my will, a thought of my mind; my thought only changing, the right hand reſts, and the left hand moves.

moves. This is matter of fact, which cannot be denied: explain this and make it intelligible, and then the next ſtep will be to underſtand creation. For the giving a new determination to the motion of the animal ſpirits (which ſome make uſe of to explain voluntary motion) clears not the difficulty one jot: to alter the determination of motion, being in this caſe no eaſier nor leſs, than to give motion itſelf; ſince the new determination given to the animal ſpirits muſt be either immediately by thought, or by ſome other body put in their way by thought, which was not in their way before, and ſo muſt owe its motion to thought; either of which leaves voluntary motion as unintelligible as it was before. In the mean time it is an overvaluing ourſelves to reduce all to the narrow meaſure of our capacities; and to conclude all things impoſſible to be done, whoſe manner of doing exceeds our comprehenſion. This is to make our comprehenſion infinite, or God finite, when what we can do is limited to what we can conceive of it. If you do not underſtand the operations of your own finite mind, that thinking thing within you, do not deem it ſtrange, that you cannot comprehend the operations of that eternal infinite mind, who made and governs all things, and whom the heaven of heavens cannot contain.

CHAP. XI.

Of our Knowledge of the Exiſtence of other Things.

§. 1. THE knowledge of our own being we have by intuition. The exiſtence of a God reaſon clearly makes known to us, as has been ſhown. *It is to be had only by ſenſation.*

The knowledge of the exiſtence of any other thing, we can have only by ſenſation: for there being no neceſſary connexion of real exiſtence with any idea a man hath in his memory, nor of any other exiſtence but that of God, with the exiſtence of any particular man; no particular man can know the exiſtence of any other being.

ing, but only when by actual operating upon him, it makes itself perceived by him. For the having the idea of any thing in our mind, no more proves the existence of that thing, than the picture of a man evidences his being in the world, or the visions of a dream make thereby a true history.

Instance, whiteness of this paper.

§. 2. It is therefore the actual receiving of ideas from without, that gives us notice of the existence of other things, and makes us know that something doth exist at that time without us, which causes that idea in us, though perhaps we neither know nor consider how it does it: for it takes not from the certainty of our senses, and the ideas we receive by them, that we know not the manner wherein they are produced: v. g. whilst I write this, I have, by the paper affecting my eyes, that idea produced in my mind, which whatever object causes, I call white; by which I know that that quality or accident (i. e. whose appearance before my eyes always causes that idea) doth really exist, and hath a being without me. And of this, the greatest assurance I can possibly have, and to which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing, whose testimony I have reason to rely on as so certain, that I can no more doubt, whilst I write this, that I see white and black, and that something really exists, that causes that sensation in me, than that I write or move my hand: which is a certainty as great as human nature is capable of, concerning the existence of any thing, but a man's self alone, and of God.

This though not so certain as demonstration, yet may be called knowledge, and proves the existence of things without us.

§. 3. The notice we have by our senses, of the existing of things without us, though it be not altogether so certain as our intuitive knowledge, or the deductions of our reason, employed about the clear abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves, that our faculties act and inform us right, concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence: for I think nobody can,

can, in earneſt, be ſo ſceptical, as to be uncertain of the exiſtence of thoſe things which he ſees and feels. At leaſt, he that can doubt ſo far (whatever he may have with his own thoughts) will never have any controverſy with me; ſince he can never be ſure I ſay any thing contrary to his own opinion. As to myſelf, I think God has given me aſſurance enough of the exiſtence of things without me; ſince by their different application I can produce in myſelf both pleaſure and pain, which is one great concernment of my preſent ſtate. This is certain, the confidence that our faculties do not herein deceive us is the greateſt aſſurance we are capable of, concerning the exiſtence of material beings. For we cannot act any thing, but by our faculties; nor talk of knowledge itſelf, but by the helps of thoſe faculties, which are fitted to apprehend even what knowledge is. But beſides the aſſurance we have from our ſenſes themſelves, that they do not err in the information they give us, of the exiſtence of things without us, when they are affected by them, we are farther confirmed in this aſſurance by other concurrent reaſons.

1. Becauſe we cannot have them but by the inlet of the ſenſes.

§. 4. Firſt, it is plain thoſe perceptions are produced in us by exterior cauſes affecting our ſenſes; becauſe thoſe that want the organs of any ſenſe, never can have the ideas belonging to that ſenſe produced in their minds. This is too evident to be doubted: and therefore we cannot but be aſſured, that they come in by the organs of that ſenſe, and no other way. The organs themſelves, it is plain, do not produce them; for then the eyes of a man in the dark would produce colours, and his noſe ſmell roſes in the winter: but we ſee nobody gets the reliſh of a pine-apple, till he goes to the Indies, where it is, and taſtes it.

2. Becauſe an idea from actual ſenſation, and another from memory, are very diſtinct perceptions.

§. 5. Secondly, becauſe ſometimes I find, that I cannot avoid the having thoſe ideas produced in my mind. For though when my eyes are ſhut, or windows faſt, I can at pleaſure recal to my mind the ideas of light, or the ſun, which former ſenſations had lodged in my memory; ſo I can at pleaſure

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lay by that idea, and take into my view that of the ſmell of a roſe, or taſte of ſugar. But, if I turn my eyes at noon towards the ſun, I cannot avoid the ideas, which the light, or ſun, then produces in me. So that there is a manifeſt difference between the ideas laid up in my memory, (over which, if they were there only, I ſhould have conſtantly the ſame power to diſpoſe of them, and lay them by at pleaſure) and thoſe which force themſelves upon me, and I cannot avoid having. And therefore it muſt needs be ſome exterior cauſe, and the briſk acting of ſome objects without me, whoſe efficacy I cannot reſiſt, that produces thoſe ideas in my mind, whether I will or no. Beſides, there is no-body who doth not perceive the difference in himſelf between contemplating the ſun, as he hath the idea of it in his memory, and actually looking upon it: of which two, his perception is ſo diſtinct, that few of his ideas are more diſtinguiſhable one from another. And therefore he hath certain knowledge, that they are not both memory, or the actions of his mind, and fancies only within him; but that actual ſeeing hath a cauſe without.

3. Pleaſure or pain which accompanies actual ſenſation, accompanies not the returning of thoſe ideas without the external objects.

§. 6. Thirdly, add to this, that many of thoſe ideas are produced in us with pain, which afterwards we remember without the leaſt offence. Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no diſturbance; which, when felt, was very troubleſome, and is again, when actually repeated; which is occaſioned by the diſorder the external object cauſes in our bodies when applied to it. And we remember the pains of hunger, thirſt, or the head-ach, without any pain at all; which would either never diſturb us, or elſe conſtantly do it, as often as we thought of it, were there nothing more but ideas floating in our minds, and appearances entertaining our fancies, without the real exiſtence of things affecting us from abroad. The ſame may be ſaid of pleaſure, accompanying ſeveral actual ſenſations: and though mathematical demonſtrations depend not upon ſenſe, yet the examining them by diagrams gives great credit to the

the evidence of our ſight, and ſeems to give it a certainty approaching to that of demonſtration itſelf. For it would be very ſtrange, that a man ſhould allow it for an undeniable truth, that two angles of a figure, which he meaſures by lines and angles of a diagram, ſhould be bigger one than the other; and yet doubt of the exiſtence of thoſe lines and angles, which by looking on he makes uſe of to meaſure that by.

4. Our ſenſes aſſiſt one another's teſtimony of the exiſtence of outward things.

§. 7. Fourthly, our ſenſes in many caſes bear witneſs to the truth of each other's report, concerning the exiſtence of ſenſible things without us. He that ſees a fire, may, if he doubt whether it be any thing more than a bare fancy, feel it too; and be convinced, by putting his hand in it. Which certainly could never be put into ſuch exquiſite pain, by a bare idea or phantom, unleſs that the pain be a fancy too: which yet he cannot, when the burn is well, by raiſing the idea of it, bring upon himſelf again.

Thus I ſee, whilſt I write this, I can change the appearance of the paper: and by deſigning the letters tell before-hand what new idea it ſhall exhibit the very next moment, by barely drawing my pen over it: which will neither appear (let me fancy as much as I will) if my hands ſtand ſtill; or though I move my pen, if my eyes be ſhut: nor when thoſe characters are once made on the paper, can I chooſe afterwards but ſee them as they are; that is, have the ideas of ſuch letters as I have made. Whence it is manifeſt, that they are not barely the ſport and play of my own imagination, when I find that the characters, that were made at the pleaſure of my own thought, do not obey them; nor yet ceaſe to be, whenever I ſhall fancy it; but continue to affect the ſenſes conſtantly and regularly, according to the figures I made them. To which if we will add, that the ſight of thoſe ſhall, from another man, draw ſuch ſounds, as I beforehand deſign they ſhall ſtand for; there will be little reaſon left to doubt, that thoſe words I write do really exiſt without me, when they cauſe a long ſeries of regular ſounds to affect my ears, which could not be the effect of

of my imagination, nor could my memory retain them in that order.

This certainty is as great as our condition needs.

§. 8. But yet, if after all this any one will be ſo ſceptical, as to diſtruſt his ſenſes, and to affirm that all we ſee and hear, feel and taſte, think and do, during our whole being, is but the ſeries and deluding appearances of a long dream, whereof there is no reality; and therefore will queſtion the exiſtence of all things, or our knowledge of any thing; I muſt deſire him to conſider, that if all be a dream, that he doth but dream, that he makes the queſtion; and ſo it is not much matter, that a waking man ſhould anſwer him. But yet, if he pleaſes, he may dream that I make him this anſwer, that the certainty of things exiſting in rerum natura, when we have the teſtimony of our ſenſes for it, is not only as great as our frame can attain to, but as our condition needs. For our faculties being ſuited not to the full extent of being, nor to a perfect, clear, comprehenſive knowledge of things free from all doubt and ſcruple; but to the preſervation of us, in whom they are; and accommodated to the uſe of life; they ſerve to our purpoſe well enough, if they will but give us certain notice of thoſe things, which are convenient or inconvenient to us. For he that ſees a candle burning, and hath experimented the force of its flame, by putting his finger in it, will little doubt that this is ſomething exiſting without him, which does him harm, and puts him to great pain: which is aſſurance enough, when no man requires greater certainty to govern his actions by, than what is as certain as his actions themſelves. And if our dreamer pleaſes to try, whether the glowing heat of a glaſs furnace be barely a wandering imagination in a drowſy man's fancy; by putting his hand into it, he may perhaps be wakened into a certainty greater than he could wiſh, that it is ſomething more than bare imagination. So that this evidence is as great as we can deſire, being as certain to us as our pleaſure or pain, i. e. happineſs or miſery; beyond which we have no concernment, either of knowing or being. Such an aſſurance of the exiſtence of things without us, is ſufficient to direct us in

in the attaining the good, and avoiding the evil, which is cauſed by them; which is the important concernment we have of being made acquainted with them.

§. 9. In fine then, when our ſenſes do actually convey into our underſtandings any idea, we cannot but be ſatisfied that there doth ſomething at that time really exiſt without us, which doth affect our ſenſes, and by them give notice of itſelf to our apprehenſive faculties, and actually produce that idea which we then perceive: and we cannot ſo far diſtruſt their teſtimony, as to doubt, that ſuch collections of ſimple ideas, as we have obſerved by our ſenſes to be united together, do really exiſt together. But this knowledge extends as far as the preſent teſtimony of our ſenſes, employed about particular objects that do then affect them, and no farther. For if I ſaw ſuch a collection of ſimple ideas, as is wont to be called man, exiſting together one minute ſince, and am now alone, I cannot be certain that the ſame man exiſts now, ſince there is no neceſſary connexion of his exiſtence a minute ſince, with his exiſtence now: by a thouſand ways he may ceaſe to be, ſince I had the teſtimony of my ſenſes for his exiſtence. And if I cannot be certain, that the man I ſaw laſt to-day is now in being, I can leſs be certain that he is ſo, who hath been longer removed from my ſenſes, and I have not ſeen ſince yeſterday, or ſince the laſt year: and much leſs can I be certain of the exiſtence of men that I never ſaw. And therefore though it be highly probable, that millions of men do now exiſt, yet, whilſt I am alone writing this, I have not that certainty of it which we ſtrictly call knowledge; though the great likelihood of it puts me paſt doubt, and it be reaſonable for me to do ſeveral things upon the confidence that there are men (and men alſo of my acquaintance, with whom I have to do) now in the world: but this is but probability, not knowledge.

But reaches no farther than actual ſenſation.

§. 10. Whereby yet we may obſerve, how fooliſh and vain a thing it is, for a man of a narrow knowledge, who having reaſon given him to judge of the different evidence and probability of things, and to be ſwayed accordingly; how

Folly to expect demonſtration in every thing.

how vain, I ſay, it is to expect demonſtration and certainty in things not capable of it; and refuſe aſſent to very rational propoſitions, and act contrary to very plain and clear truths, becauſe they cannot be made out ſo evident, as to ſurmount every the leaſt (I will not ſay reaſon, but) pretence of doubting. He that in the ordinary affairs of life would admit of nothing but direct plain demonſtration, would be ſure of nothing in this world, but of periſhing quickly. The wholeſomeneſs of his meat or drink would not give him reaſon to venture on it: and I would fain know, what it is he could do upon ſuch grounds, as are capable of no doubt, no objection.

Paſt exiſtence is known by memory.

§. 11. As when our ſenſes are actually employed about any object, we do know that it does exiſt; ſo by our memory we may be aſſured, that heretofore things that affected our ſenſes have exiſted. And thus we have knowledge of the paſt exiſtence of ſeveral things, whereof our ſenſes having informed us, our memories ſtill retain the ideas; and of this we are paſt all doubt, ſo long as we remember well. But this knowledge alſo reaches no farther than our ſenſes have formerly aſſured us. Thus ſeeing water at this inſtant, it is an unqueſtionable truth to me, that water doth exiſt: and remembering that I ſaw it yeſterday, it will alſo be always true; and as long as my memory retains it, always an undoubted propoſition to me, that water did exiſt the 10th of July, 1688, as it will alſo be equally true, that a certain number of very fine colours did exiſt, which at the ſame time I ſaw upon a bubble of that water: but, being now quite out of the ſight both of the water and bubbles too, it is no more certainly known to me that the water doth now exiſt, than that the bubbles or colours therein do ſo: it being no more neceſſary that water ſhould exiſt to-day, becauſe it exiſted yeſterday, than that the colours or bubbles exiſt to-day, becauſe they exiſted yeſterday; though it be exceedingly much more probable, becauſe water hath been obſerved to continue long in exiſtence, but bubbles and the colours on them *quickly* ceaſe to be.

§. 12. What ideas we have of ſpirits, and how we come by them, I have already ſhown. But though we have thoſe ideas in our minds, and know we have them there, the having the ideas of ſpirits does not make us know, that any ſuch things do exiſt without us, or that there are any finite ſpirits, or any other ſpiritual beings but the eternal God. We have ground from revelation, and ſeveral other reaſons, to believe with aſſurance that there are ſuch creatures: but, our ſenſes not being able to diſcover them, we want the means of knowing their particular exiſtences. For we can no more know, that there are finite ſpirits really exiſting, by the idea we have of ſuch beings in our minds, than by the ideas any one has of fairies, or centaurs, he can come to know that things anſwering thoſe ideas do really exiſt. The exiſtence of ſpirits not knowable.

And therefore concerning the exiſtence of finite ſpirits, as well as ſeveral other things, we muſt content ourſelves with the evidence of faith; but univerſal certain propoſitions concerning this matter are beyond our reach. For however true it may be, v. g. that all the intelligent ſpirits that God ever created, do ſtill exiſt; yet it can never make a part of our certain knowledge. Theſe and the like propoſitions we may aſſent to as highly probable, but are not, I fear, in this ſtate capable of knowing. We are not then to put others upon demonſtrating, nor ourſelves upon ſearch of univerſal certainty in all thoſe matters, wherein we are not capable of any other knowledge, but what our ſenſes give us in this or that particular.

§. 13. By which it appears, that there are two ſorts of propoſitions. 1. There is one ſort of propoſitions concerning the exiſtence of any thing anſwerable to ſuch an idea: as having the idea of an elephant, phœnix, motion, or an angel, in my mind, the firſt and natural inquiry is, Whether ſuch a thing does any where exiſt? And this knowledge is only of particulars. No exiſtence of any thing without us, but only of God, can certainly be known farther than our ſenſes inform us. 2. There is another ſort of propoſitions, wherein is expreſſed Particular propoſitions concerning exiſtence are knowable.

preſſed the agreement or diſagreement of our abſtract ideas, and their dependence on one another. Such propoſitions may be univerſal or certain. So having the idea of God and myſelf, of fear and obedience, I cannot but be ſure that God is to be feared and obeyed by me: and this propoſition will be certain, concerning man in general, if I have made an abſtract idea of ſuch a ſpecies, whereof I am one particular. But yet this propoſition, how certain ſoever, that men ought to fear and obey God, proves not to me the exiſtence of men in the world, but will be true of all ſuch creatures, whenever they do exiſt: which certainty of ſuch general propoſitions, depends on the agreement or diſagreement to be diſcovered in thoſe abſtract ideas.

And general propoſitions concerning abſtract ideas.

§. 14. In the former caſe, our knowledge is the conſequence of the exiſtence of things producing ideas in our minds by our ſenſes: in the latter, knowledge is the conſequence of the ideas (be they what they will) that are in our minds producing there general certain propoſitions. Many of theſe are called æternæ veritates, and all of them indeed are ſo; not from being written all or any of them in the minds of all men, or that they were any of them propoſitions in one's mind, till he, having got the abſtract ideas, joined or ſeparated them by affirmation or negation. But whereſoever we can ſuppoſe ſuch a creature as man is, endowed with ſuch faculties, and thereby furniſhed with ſuch ideas as we have, we muſt conclude, he muſt needs, when he applies his thoughts to the conſideration of his ideas, know the truth of certain propoſitions, that will ariſe from the agreement or diſagreement which he will perceive in his own ideas. Such propoſitions are therefore called eternal truths, not becauſe they are eternal propoſitions actually formed, and antecedent to the underſtanding, that at any time makes them; nor becauſe they are imprinted on the mind from any patterns, that are any where out of the mind, and exiſted before: but becauſe being once made about abſtract ideas, ſo as to be true, they will, whenever they can be ſuppoſed to be made again at any time paſt or to come, by a mind having

thoſe ideas, always actually be true. For names being ſuppoſed to ſtand perpetually for the ſame ideas, and the ſame ideas having immutably the ſame habitudes one to another; propoſitions concerning any abſtract ideas, that are once true, muſt needs be eternal verities.

CHAP. XII.

Of the Improvement of our Knowledge.

Knowledge is not from maxims.

§. 1. IT having been the common received opinion amongſt men of letters, that maxims were the foundation of all knowledge; and that the ſciences were each of them built upon certain præcognita, from whence the underſtanding was to take its riſe, and by which it was to conduct itſelf, in its inquiries into the matters belonging to that ſcience; the beaten road of the ſchools has been, to lay down in the beginning one or more general propoſitions, as foundations whereon to build the knowledge that was to be had of that ſubject. Theſe doctrines, thus laid down for foundations of any ſcience, were called principles, as the beginnings from which we muſt ſet out, and look no farther backwards in our inquiries, as we have already obſerved.

(The occaſion of that opinion.)

§. 2. One thing which might probably give an occaſion to this way of proceeding in other ſciences, was (as I ſuppoſe) the good ſucceſs it ſeemed to have in mathematics, wherein men, being obſerved to attain a great certainty of knowledge, theſe ſciences came by pre-eminence to be called, Μαθήματα, and Μάθησις, learning, or things learned, thoroughly learned, as having of all others the greateſt certainty, clearneſs, and evidence in them.

Put from the comparing clear and diſtinct ideas.

§. 3. But if any one will conſider, he will (I gueſs) find, that the great advancement and certainty of real knowledge, which men arrived to in theſe ſciences, was not owing

to the influence of theſe principles, nor derived from any peculiar advantage they received from two or three general maxims, laid down in the beginning; but from the clear, diſtinct, complete ideas their thoughts were employed about, and the relation of equality and exceſs ſo clear between ſome of them, that they had an intuitive knowledge, and by that a way to diſcover it in others, and this without the help of thoſe maxims. For I aſk, is it not poſſible for a young lad to know, that his whole body is bigger than his little finger, but by virtue of this axiom, that the whole is bigger than a part; nor be aſſured of it, till he has learned that maxim? Or cannot a country wench know, that having received a ſhilling from one that owes her three, and a ſhilling alſo from another that owes her three, the remaining debts in each of their hands are equal? Cannot ſhe know this, I ſay, unleſs ſhe fetch the certainty of it from this maxim, that if you take equals from equals, the remainder will be equals, a maxim which poſſibly ſhe never heard or thought of? I deſire any one to conſider, from what has been elſewhere ſaid, which is known firſt and cleareſt by moſt people, the particular inſtance, or the general rule; and which it is that gives life and birth to the other. Theſe general rules are but the comparing our more general and abſtract ideas, which are the workmanſhip of the mind made, and names given to them, for the eaſier diſpatch in its reaſonings, and drawing into comprehenſive terms, and ſhort rules, its various and multiplied obſervations. But knowledge began in the mind, and was founded on particulars; though afterwards, perhaps, no notice be taken thereof: it being natural for the mind (forward ſtill to enlarge its knowledge) moſt attentively to lay up thoſe general notions, and make the proper uſe of them, which is to diſburden the memory of the cumberſome load of particulars. For I deſire it may be conſidered what more certainty there is to a child, or any one, that his body, little finger and all, is bigger than his little finger alone, after you have given to his body the name whole, and to his little finger the name part, than he could have had before; or what new knowledge concerning his

body can theſe two relative terms give him, which he could not have without them? Could he not know that his body was bigger than his little finger, if his language were yet ſo imperfect, that he had no ſuch relative terms as whole and part? I aſk farther, when he has got theſe names, how is he more certain that his body is a whole, and his little finger a part, than he was or might be certain, before he learnt thoſe terms, that his body was bigger than his little finger? Any one may as reaſonably doubt or deny that his little finger is a part of his body, as that it is leſs than his body. And he that can doubt whether it be leſs, will as certainly doubt whether it be a part. So that the maxim, the whole is bigger than a part, can never be made uſe of to prove the little finger leſs than the body, but when it is uſeleſs, by being brought to convince one of a truth which he knows already. For he that does not certainly know that any parcel of matter, with another parcel of matter joined to it, is bigger than either of them alone, will never be able to know it by the help of theſe two relative terms whole and part, make of them what maxim you pleaſe.

Dangerous to build upon precarious principles.

§. 4. But be it in the mathematics as it will, whether it be clearer, that taking an inch from a black line of two inches, and an inch from a red line of two inches, the remaining parts of the two lines will be equal, or that if you take equals from equals, the remainder will be equals: which, I ſay, of theſe two is the clearer and firſt known, I leave it to any one to determine, it not being material to my preſent occaſion. That which I have here to do, is to inquire, whether if it be the readieſt way to knowledge to begin with general maxims, and build upon them, it be yet a ſafe way to take the principles, which are laid down in any other ſcience as unqueſtionable truths; and ſo receive them without examination, and adhere to them, without ſuffering them to be doubted of, becauſe mathematicians have been ſo happy, or ſo fair, to uſe none but ſelf-evident and undeniable. If this be ſo, I know not what may not paſs

for truth in morality, what may not be introduced and proved in natural philoſophy.

Let that principle of ſome of the philoſophers, that all is matter, and that there is nothing elſe, be received for certain and indubitable, and it will be eaſy to be ſeen by the writings of ſome that have revived it again in our days, what conſequences it will lead us into. Let any one, with Polemo, take the world; or with the ſtoics, the æther, or the ſun; or with Anaximenes, the air; to be God; and what a divinity, religion and worſhip muſt we needs have! Nothing can be ſo dangerous as principles thus taken up without queſtioning or examination; eſpecially if they be ſuch as concern morality, which influence men's lives, and give a bias to all their actions. Who might not juſtly expect another kind of life in Ariſtippus, who placed happineſs in bodily pleaſure; and in Antiſthenes, who made virtue ſufficient to felicity? And he who, with Plato, ſhall place beatitude in the knowledge of God, will have his thoughts raiſed to other contemplations; than thoſe who look not beyond this ſpot of earth, and thoſe periſhing things which are to be had in it. He that, with Archelaus, ſhall lay it down as a principle, that right and wrong, honeſt and diſhoneſt, are defined only by laws, and not by nature, will have other meaſures of moral rectitude, and pravity, than thoſe who take it for granted, that we are under obligations antecedent to all human conſtitutions.

This is no certain way to truth.

§. 5. If therefore thoſe that paſs for principles are not certain (which we muſt have ſome way to know, that we may be able to diſtinguiſh them from thoſe that are doubtful) but are only made ſo to us by our blind aſſent, we are liable to be miſled by them; and inſtead of being guided into truth, we ſhall, by principles, be only confirmed in miſtake and errour.

But to compare clear complete ideas under ſteady names.

§. 6. But ſince the knowledge of the certainty of principles, as well as of all other truths, depends only upon the perception we have of the agreement or diſagreement of our ideas, the way to improve our knowledge

ledge is not, I am ſure, blindly, and with an implicit faith, to receive and ſwallow principles; but is, I think, to get and fix in our minds clear, diſtinct, and complete ideas, as far as they are to be had, and annex to them proper and conſtant names. And thus, perhaps, without any other principles, but barely conſidering thoſe ideas, and by comparing them one with another, finding their agreement and diſagreement, and their ſeveral relations and habitudes; we ſhall get more true and clear knowledge, by the conduct of this one rule, than by taking up principles, and thereby putting our minds into the diſpoſal of others.

The true method of advancing knowledge is by conſidering our abſtract ideas.

§. 7. We muſt therefore, if we will proceed as reaſon adviſes, adapt our methods of inquiry to the nature of the ideas we examine, and the truth we ſearch after. General and certain truths are only founded in the habitudes and relations of abſtract ideas. A ſagacious and methodical application of our thoughts, for the finding out theſe relations, is the only way to diſcover all, that can be put with truth and certainty concerning them into general propoſitions. By what ſteps we are to proceed in theſe, is to be learned in the ſchools of the mathematicians, who from very plain and eaſy beginnings, by gentle degrees, and a continued chain of reaſonings, proceed to the diſcovery and demonſtration of truths, that appear at firſt ſight beyond human capacity. The art of finding proofs, and the admirable methods they have invented for the ſingling out, and laying in order, thoſe intermediate ideas, that demonſtratively ſhow the equality or inequality of unapplicable quantities, is that which has carried them ſo far, and produced ſuch wonderful and unexpected diſcoveries: but whether ſomething like this, in reſpect of other ideas, as well as thoſe of magnitude, may not in time be found out, I will not determine. This, I think, I may ſay, that if other ideas, that are the real as well as nominal eſſences of their ſpecies, were purſued in the way familiar to mathematicians, they would carry our thoughts farther, and with greater evidence and clearneſs, than poſſibly we are apt to imagine.

By which morality alſo may be made clearer.

§. 8. This gave me the confidence to advance that conjecture, which I ſuggeſt, chap. iii. viz. that morality is capable of demonſtration, as well as mathematics. For the ideas that ethics are converſant about being all real eſſences, and ſuch as I imagine have a diſcoverable connexion and agreement one with another; ſo far as we can find their habitudes and relations, ſo far we ſhall be poſſeſſed of certain, real, and general truths: and I doubt not, but, if a right method were taken, a great part of morality might be made out with that clearneſs, that could leave, to a conſidering man, no more reaſon to doubt, than he could have to doubt of the truth of propoſitions in mathematics, which have been demonſtrated to him.

But knowledge of bodies is to be improved only by experience.

§. 9. In our ſearch after the knowledge of ſubſtances, our want of ideas, that are ſuitable to ſuch a way of proceeding, obliges us to a quite different method. We advance not here, as in the other (where our abſtract ideas are real as well as nominal eſſences) by contemplating our ideas, and conſidering their relations and correſpondencies; that helps us very little, for the reaſons, that in another place we have at large ſet down. By which I think it is evident, that ſubſtances afford matter of very little general knowledge; and the bare contemplation of their abſtract ideas will carry us but a very little way in the ſearch of truth and certainty. What then are we to do for the improvement of our knowledge in ſubſtantial beings? Here we are to take a quite contrary courſe; the want of ideas of their real eſſences, ſends us from our own thoughts to the things themſelves, as they exiſt. Experience here muſt teach me what reaſon cannot; and it is by trying alone, that I can certainly know, what other qualities co-exiſt with thoſe of my complex idea, v. g. whether that yellow, heavy, fuſible body, I call gold, be malleable, or no; which experience (which way ever it prove, in that particular body, I examine) makes me not certain, that it is ſo in all, or any other *yellow, heavy, fuſible bodies*, but that which I have

tried.

tried. Becauſe it is no conſequence one way or the other from my complex idea; the neceſſity or inconſiſtence of malleability hath no viſible connexion with the combination of that colour, weight, and fuſibility in any body. What I have ſaid here of the nominal eſſence of gold, ſuppoſed to conſiſt of a body of ſuch a determinate colour, weight, and fuſibility, will hold true, if malleableneſs, fixedneſs, and ſolubility in aqua regia be added to it. Our reaſonings from theſe ideas will carry us but a little way in the certain diſcovery of the other properties in thoſe maſſes of matter wherein all theſe are to be found. Becauſe the other properties of ſuch bodies, depending not on theſe, but on that unknown real eſſence, on which theſe alſo depend, we cannot by them diſcover the reſt; we can go no farther than the ſimple ideas of our nominal eſſence will carry us, which is very little beyond themſelves; and ſo afford us but very ſparingly any certain, univerſal, and uſeful truths. For upon trial having found that particular piece (and all others of that colour, weight, and fuſibility, that I ever tried) malleable, that alſo makes now perhaps a part of my complex idea, part of my nominal eſſence of gold: whereby though I make my complex idea, to which I affix the name gold, to conſiſt of more ſimple ideas than before; yet ſtill, it not containing the real eſſence of any ſpecies of bodies, it helps me not certainly to know (I ſay to know, perhaps it may to conjecture) the other remaining properties of that body, farther than they have a viſible connexion with ſome or all of the ſimple ideas, that make up my nominal eſſence. For example, I cannot be certain from this complex idea, whether gold be fixed, or no; becauſe, as before, there is no neceſſary connexion or inconſiſtence to be diſcovered betwixt a complex idea of a body yellow, heavy, fuſible, malleable; betwixt theſe, I ſay, and fixedneſs; ſo that I may certainly know, that in whatſoever body theſe are found, there fixedneſs is ſure to be. Here again for aſſurance, I muſt apply myſelf to experience; as far as that reaches, I may have certain knowledge, but no farther.

This may procure us convenience, not ſcience.

§. 10. I deny not but a man, accuſtomed to rational and regular experiments, ſhall be able to ſee farther into the nature of bodies, and gueſs righter at their yet unknown properties, than one that is a ſtranger to them: but yet, as I have ſaid, this is but judgment and opinion, not knowledge and certainty. This way of getting and improving our knowledge in ſubſtances only by experience and hiſtory, which is all that the weakneſs of our faculties in this ſtate of mediocrity, which we are in in this world, can attain to; makes me ſuſpect, that natural philoſophy is not capable of being made a ſcience. We are able, I imagine, to reach very little general knowledge concerning the ſpecies of bodies, and their ſeveral properties. Experiments and hiſtorical obſervations we may have, from which we may draw advantages of eaſe and health, and thereby increaſe our ſtock of conveniencies for this life; but beyond this I fear our talents reach not, nor are our faculties, as I gueſs, able to advance.

We are fitted for moral knowledge and natural improvements.

§. 11. From whence it is obvious to conclude, that ſince our faculties are not fitted to penetrate into the internal fabrick and real eſſences of bodies; but yet plainly diſcover to us the being of a God, and the knowledge of ourſelves, enough to lead us into a full and clear diſcovery of our duty and great concernment; it will become us, as rational creatures, to employ thoſe faculties we have about what they are moſt adapted to, and follow the direction of nature, where it ſeems to point us out the way. For it is rational to conclude that our proper employment lies in thoſe inquiries, and in that ſort of knowledge which is moſt ſuited to our natural capacities, and carries in it our greateſt intereſt, i. e. the condition of our eternal eſtate. Hence I think I may conclude, that morality is the proper ſcience and buſineſs of mankind in general; (who are both concerned, and fitted to ſearch out their ſummum bonum) as ſeveral arts, converſant about ſeveral parts of nature, are the lot and private talent of particular men, for the common uſe of human life, and their own

own particular ſubſiſtence in this world. Of what conſequence the diſcovery of one natural body, and its properties, may be to human life, the whole great continent of America is a convincing inſtance: whoſe ignorance in uſeful arts, and want of the greateſt part of the conveniencies of life, in a country that abounded with all ſorts of natural plenty, I think, may be attributed to their ignorance of what was to be found in a very ordinary deſpicable ſtone, I mean the mineral of iron. And whatever we think of our parts or improvements in this part of the world, where knowledge and plenty ſeem to vie with each other; yet to any one, that will ſeriouſly reflect on it, I ſuppoſe it will appear paſt doubt, that were the uſe of iron loſt among us, we ſhould in a few ages be unavoidably reduced to the wants and ignorance of the ancient ſavage Americans, whoſe natural endowments and proviſions come no way ſhort of thoſe of the moſt flouriſhing and polite nations. So that he who firſt made known the uſe of that contemptible mineral, may be truly ſtyled the father of arts, and author of plenty.

But muſt beware of hypotheſes and wrong principles.

§. 12. I would not therefore be thought to diſeſteem, or diſſuade the ſtudy of nature. I readily agree the contemplation of his works gives us occaſion to admire, revere, and glorify their author: and, if rightly directed, may be of greater benefit to mankind, than the monuments of exemplary charity, that have at ſo great charge been raiſed by the founders of hoſpitals and almſhouſes. He that firſt invented printing, diſcovered the uſe of the compaſs, or made public the virtue and right uſe of kin kina, did more for the propagation of knowledge, for the ſupply and increaſe of uſeful commodities, and ſaved more from the grave, than thoſe who built colleges, work-houſes and hoſpitals. All that I would ſay, is, that we ſhould not be too forwardly poſſeſſed with the opinion, or expectation of knowledge, where it is not to be had; or by ways that will not attain to it: that we ſhould not take doubtful ſyſtems for complete ſciences, nor unintelligible notions for ſcientifical demonſtrations. In the knowledge of bodies, we muſt

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be content to glean what we can from particular experiments: ſince we cannot, from a diſcovery of their real eſſences, graſp at a time whole ſheaves, and in bundles comprehend the nature and properties of whole ſpecies together. Where our inquiry is concerning co-exiſtence, or repugnancy to co-exiſt, which by contemplation of our ideas we cannot diſcover; there experience, obſervation, and natural hiſtory muſt give us by our ſenſes, and by retail, an inſight into corporeal ſubſtances. The knowledge of bodies we muſt get by our ſenſes, warily employed in taking notice of their qualities and operations on one another: and what we hope to know of ſeparate ſpirits in this world we muſt, I think, expect only from revelation. He that ſhall conſider how little general maxims, precarious principles, and hypotheſes laid down at pleaſure, have promoted true knowledge, or helped to ſatisfy the inquiries of rational men after real improvements: how little, I ſay, the ſetting out at that end has, for many ages together, advanced men's progreſs towards the knowledge of natural philoſophy; will think we have reaſon to thank thoſe, who in this latter age have taken another courſe, and have trod out to us, though not an eaſier way to learned ignorance, yet a ſurer way to profitable knowledge.

The true uſe of hypotheſes.

§. 13. Not that we may not, to explain any phænomena of nature, make uſe of any probable hypotheſis whatſoever: hypotheſes, if they are well made, are at leaſt great helps to the memory, and often direct us to new diſcoveries. But my meaning is, that we ſhould not take up any one too haſtily (which the mind, that would always penetrate into the cauſes of things, and have principles to reſt on, is very apt to do) till we have very well examined particulars, and made ſeveral experiments, in that thing which we would explain by our hypotheſis, and ſee whether it will agree to them all; whether our principles will carry us quite through, and not be as inconſiſtent with one phænomenon of nature, as they ſeem to accommodate and explain another. And at leaſt that we take care, that the name of principles deceive us not, nor impoſe on us, by making us receive that

that for an unqueſtionable truth, which is really at beſt but a very doubtful conjecture, ſuch as are moſt (I had almoſt ſaid all) of the hypotheſes in natural philoſophy.

Clear and diſtinct ideas with ſettled names, and the finding of thoſe which ſhow their agreement or diſagreement, are the ways to enlarge our knowledge.

§. 14. But whether natural philoſophy be capable of certainty or no, the ways to enlarge our knowledge, as far as we are capable, ſeem to me, in ſhort, to be theſe two:

Firſt, the firſt is to get and ſettle in our minds determined ideas of thoſe things, whereof we have general or ſpecific names; at leaſt ſo many of them as we would conſider and improve our knowledge in, or reaſon about. And if they be ſpecific ideas of ſubſtances, we ſhould endeavour alſo to make them as complete as we can, whereby I mean, that we ſhould put together as many ſimple ideas, as, being conſtantly obſerved to co-exiſt, may perfectly determine the ſpecies: and each of thoſe ſimple ideas, which are the ingredients of our complex ones, ſhould be clear and diſtinct in our minds. For it being evident, that our knowledge cannot exceed our ideas; as far as they are either imperfect, confuſed, or obſcure, we cannot expect to have certain, perfect, or clear knowledge.

Secondly, the other is the art of finding out thoſe intermediate ideas, which may ſhow us the agreement or repugnancy of other ideas, which cannot be immediately compared.

Mathematics, an inſtance of it.

§. 15. That theſe two (and not the relying on maxims, and drawing conſequences from ſome general propoſitions) are the right methods of improving our knowledge in the ideas of other modes beſides thoſe of quantity, the conſideration of mathematical knowledge will eaſily inform us. Where firſt we ſhall find, that he that has not a perfect and clear idea of thoſe angles, or figures of which he deſires to know any thing, is utterly thereby incapable of any knowledge about them. Suppoſe but a man not to have a perfect exact idea of a right angle, a ſcalenum, or trapezium; and there is nothing more certain, than that he

he will in vain ſeek any demonſtration about them. Farther, it is evident, that it was not the influence of thoſe maxims, which are taken for principles in mathematics, that hath led the maſters of that ſcience into thoſe wonderful diſcoveries they have made. Let a man of good parts know all the maxims generally made uſe of in mathematics ever ſo perfectly, and contemplate their extent and conſequences as much as he pleaſes, he will by their aſſiſtance, I ſuppoſe, ſcarce ever come to know that the ſquare of the hypothenuſe in a right-angled triangle is equal to the ſquares of the two other ſides. The knowledge, that the whole is equal to all its parts, and if you take equals from equals, the remainder will be equal, &c. helped him not, I preſume, to this demonſtration: and a man may, I think, pore long enough on thoſe axioms, without ever ſeeing one jot the more of mathematical truths. They have been diſcovered by the thoughts otherwiſe applied: the mind had other objects, other views before it, far different from thoſe maxims, when it firſt got the knowledge of ſuch truths in mathematics, which men well enough acquainted with thoſe received axioms, but ignorant of their method who firſt made theſe demonſtrations, can never ſufficiently admire. And who knows what methods, to enlarge our knowledge in other parts of ſcience, may hereafter be invented, anſwering that of algebra in mathematics, which ſo readily finds out the ideas of quantities to meaſure others by; whoſe equality or proportion we could otherwiſe very hardly, or, perhaps, never come to know?

CHAP. XIII.

Some farther Conſiderations concerning our Knowledge.

Our knowledge partly neceſſary, partly voluntary.

§. 1. OUR knowledge, as in other things, ſo in this, has ſo great a conformity with our ſight, that it is neither wholly neceſſary, nor wholly voluntary. If

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our knowledge were altogether neceſſary, all men's knowledge would not only be alike, but every man would know all that is knowable: and if it were wholly voluntary, ſome men ſo little regard or value it, that they would have extreme little, or none at all. Men that have ſenſes cannot chooſe but receive ſome ideas by them; and if they have memory, they cannot but retain ſome of them; and if they have any diſtinguiſhing faculty, cannot but perceive the agreement or diſagreement of ſome of them one with another: as he that has eyes, if he will open them by day, cannot but ſee ſome objects, and perceive a difference in them. But though a man, with his eyes open in the light, cannot but ſee; yet there be certain objects, which he may chooſe whether he will turn his eyes to; there may be in his reach a book containing pictures and diſcourſes, capable to delight or inſtruct him, which yet he may never have the will to open, never take the pains to look into.

The application voluntary; but we know as things are, not as we pleaſe.

§. 2. There is alſo another thing in a man's power, and that is, though he turns his eyes ſometimes towards an object, yet he may chooſe whether he will curiouſly ſurvey it, and with an intent application endeavour to obſerve accurately all that is viſible in it. But yet what he does ſee, he cannot ſee otherwiſe than he does. It depends not on his will to ſee that black which appears yellow; nor to perſuade himſelf, that what actually ſcalds him, feels cold. The earth will not appear painted with flowers, nor the fields covered with verdure, whenever he has a mind to it: in the cold winter he cannot help ſeeing it white and hoary, if he will look abroad. Juſt thus is it with our underſtanding; all that is voluntary in our knowledge, is the employing or withholding any of our faculties, from this or that ſort of objects, and a more or leſs accurate ſurvey of them: but, they being employed, our will hath no power to determine the knowledge of the mind one way or other; that is done only by the objects themſelves, as far as they are clearly diſcovered. And therefore, as far as men's ſenſes are converſant about external objects, the mind cannot but receive thoſe

ideas

ideas which are preſented by them, and be informed of the exiſtence of things without: and ſo far as men's thoughts converſe with their own determined ideas, they cannot but, in ſome meaſure, obſerve the agreement or diſagreement that is to be found amongſt ſome of them, which is ſo far knowledge: and if they have names for thoſe ideas which they have thus conſidered, they muſt needs be aſſured of the truth of thoſe propoſitions, which expreſs that agreement or diſagreement they perceive in them, and be undoubtedly convinced of thoſe truths. For what a man ſees, he cannot but ſee; and what he perceives, he cannot but know that he perceives.

Inſtance, in numbers.

§. 3. Thus he that has got the ideas of numbers, and hath taken the pains to compare one, two, and three to ſix, cannot chooſe but know that they are equal: he that hath got the idea of a triangle, and found the ways to meaſure its angles, and their magnitudes, is certain that its three angles are equal to two right ones; and can as little doubt of that, as of this truth, "that it is impoſſible for "the ſame thing to be, and not to be."

In natural religion.

He alſo that hath the idea of an intelligent, but frail and weak being, made by and depending on another, who is eternal, omnipotent, perfectly wiſe and good, will as certainly know that man is to honour, fear, and obey God, as that the ſun ſhines when he ſees it. For if he hath but the ideas of two ſuch beings in his mind, and will turn his thoughts that way, and conſider them, he will as certainly find that the inferior, finite and dependent, is under an obligation to obey the ſupreme and infinite, as he is certain to find, that three, four, and ſeven are leſs than fifteen, if he will conſider and compute thoſe numbers; nor can he be ſurer in a clear morning that the ſun is riſen, if he will but open his eyes, and turn them that way. But yet theſe truths, being ever ſo certain, ever ſo clear, he may be ignorant of either, or all of them, who will never take the pains to employ his faculties, as he ſhould, to inform himſelf about them.

CHAP.

CHAP. XIV.

Of Judgment.

Our knowledge being ſhort, we want ſomething elſe.

§. 1. THE underſtanding faculties being given to man, not barely for ſpeculation, but alſo for the conduct of his life, man would be at a great loſs, if he had nothing to direct him but what has the certainty of true knowledge. For that being very ſhort and ſcanty, as we have ſeen, he would be often utterly in the dark, and in moſt of the actions of his life, perfectly at a ſtand, had he nothing to guide him in the abſence of clear and certain knowledge. He that will not eat, till he has demonſtration that it will nouriſh him; he that will not ſtir, till he infallibly knows the buſineſs he goes about will ſucceed; will have little elſe to do, but to ſit ſtill and periſh.

What uſe to be made of this twilight ſtate.

§. 2. Therefore as God has ſet ſome things in broad day-light; as he has given us ſome certain knowledge, though limited to a few things in compariſon, probably, as a taſte of what intellectual creatures are capable of, to excite in us a deſire and endeavour after a better ſtate: ſo in the greateſt part of our concernments he has afforded us only the twilight, as I may ſo ſay, of probability; ſuitable, I preſume, to that ſtate of mediocrity and probationerſhip, he has been pleaſed to place us in here; wherein, to check our over-confidence and preſumption, we might by every day's experience be made ſenſible of our ſhort-ſightedneſs and liableneſs to errour; the ſenſe whereof might be a conſtant admonition to us, to ſpend the days of this our pilgrimage with induſtry and care, in the ſearch and following of that way, which might lead us to a ſtate of greater perfection: it being highly rational to think, even were revelation ſilent in the caſe, that as men employ thoſe talents God has given them here, they ſhall accordingly receive their rewards at the cloſe of the day, when their ſun ſhall ſet, and night ſhall put an end to their labours.

§. 3.

Judgment ſupplies the want of knowledge.

§. 3. The faculty which God has given man to ſupply the want of clear and certain knowledge, in caſes where that cannot be had, is judgment: whereby the mind takes its ideas to agree or diſagree; or which is the ſame, any propoſition to be true or falſe, without perceiving a demonſtrative evidence in the proofs. The mind ſometimes exerciſes this judgment out of neceſſity, where demonſtrative proofs and certain knowledge are not to be had; and ſometimes out of lazineſs, unſkilfulneſs, or haſte, even where demonſtrative and certain proofs are to be had. Men often ſtay not warily to examine the agreement or diſagreement of two ideas, which they are deſirous or concerned to know; but either incapable of ſuch attention as is requiſite in a long train of gradations, or impatient of delay, lightly caſt their eyes on, or wholly paſs by the proofs; and ſo without making out the demonſtration, determine of the agreement or diſagreement of two ideas, as it were by a view of them as they are at a diſtance, and take it to be the one or the other, as ſeems moſt likely to them upon ſuch a looſe ſurvey. This faculty of the mind, when it is exerciſed immediately about things, is called judgment; when about truths delivered in words, is moſt commonly called aſſent or diſſent: which being the moſt uſual way, wherein the mind has occaſion to employ this faculty, I ſhall under theſe terms treat of it, as leaſt liable in our language to equivocation.

Judgment is the preſuming things to be ſo, without perceiving it.

§. 4. Thus the mind has two faculties, converſant about truth and falſhood.

Firſt, knowledge, whereby it certainly perceives, and is undoubtedly ſatisfied of the agreement or diſagreement of any ideas.

Secondly, judgment, which is the putting ideas together, or ſeparating them from one another in the mind, when their certain agreement or diſagreement is not perceived, but preſumed to be ſo; which is, as the word imports, taken to be ſo before it certainly appears. And if it ſo unites, or ſeparates them, as in reality things are, it is right judgment.

CHAP.

CHAP. XV.

Of Probability.

§. 1. AS demonſtration is the ſhowing the agreement or diſagreement of two ideas, by the intervention of one or more proofs, which have a conſtant, immutable, and viſible connexion one with another; ſo probability is nothing but the appearance of ſuch an agreement or diſagreement, by the intervention of proofs, whoſe connexion is not conſtant and immutable, or at leaſt is not perceived to be ſo, but is, or appears for the moſt part to be ſo, and is enough to induce the mind to judge the propoſition to be true or falſe, rather than the contrary. For example: in the demonſtration of it a man perceives the certain immutable connexion there is of equality between the three angles of a triangle, and thoſe intermediate ones which are made uſe of to ſhow their equality to two right ones; and ſo by an intuitive knowledge of the agreement or diſagreement of the intermediate ideas in each ſtep of the progreſs, the whole ſeries is continued with an evidence, which clearly ſhows the agreement or diſagreement of thoſe three angles in equality to two right ones: and thus he has certain knowledge that it is ſo. But another man, who never took the pains to obſerve the demonſtration, hearing a mathematician, a man of credit, affirm the three angles of a triangle to be equal to two right ones, aſſents to it, i. e. receives it for true. In which caſe the foundation of his aſſent is the probability of the thing, the proof being ſuch as for the moſt part carries truth with it: the man, on whoſe teſtimony he receives it, not being wont to affirm any thing contrary to, or beſides his knowledge, eſpecially in matters of this kind. So that that which cauſes his aſſent to this propoſition, that the three angles of a triangle are equal to two right ones, that which makes him take theſe ideas to agree, without knowing

Probability is the appearance of agreement upon fallible proofs.

them to do ſo, is the wonted veracity of the ſpeaker in other caſes, or his ſuppoſed veracity in this.

It is to ſupply the want of knowledge.

§. 2. Our knowledge, as has been ſhown, being very narrow, and we not happy enough to find certain truth in every thing which we have occaſion to conſider; moſt of the propoſitions we think, reaſon, diſcourſe, nay act upon, are ſuch, as we cannot have undoubted knowledge of their truth: yet ſome of them border ſo near upon certainty, that we make no doubt at all about them; but aſſent to them as firmly, and act, according to that aſſent, as reſolutely, as if they were infallibly demonſtrated, and that our knowledge of them was perfect and certain. But there being degrees herein from the very neighbourhood of certainty and demonſtration, quite down to improbability and unlikeneſs, even to the confines of impoſſibility; and alſo degrees of aſſent from full aſſurance and confidence, quite down to conjecture, doubt, and diſtruſt: I ſhall come now, (having, as I think, found out the bounds of human knowledge and certainty) in the next place, to conſider the ſeveral degrees and grounds of probability, and aſſent or faith.

Being that which makes us preſume things to be true before we know them to be ſo.

§. 3. Probability is likelineſs to be true, the very notation of the word ſignifying ſuch a propoſition, for which there be arguments or proofs, to make it paſs or be received for true. The entertainment the mind gives this ſort of propoſitions, is called belief, aſſent, or opinion, which is the admitting or receiving any propoſition for true, upon arguments or proofs that are found to perſuade us to receive it as true, without certain knowledge that it is ſo. And herein lies the difference between probability and certainty, faith and knowledge, that in all the parts of knowledge there is intuition; each immediate idea, each ſtep has its viſible and certain connexion; in belief, not ſo. That which makes me believe is ſomething extraneous to the thing I believe; ſomething not evidently joined on both ſides to, and ſo not manifeſtly ſhowing the agreement or diſagreement of thoſe ideas that are under conſideration.

§. 4.

§. 4. Probability then, being to ſupply the defect of our knowledge, and to guide us where that fails, is always converſant about propoſitions, whereof we have no certainty, but only ſome inducements to receive them for true. The grounds of it are, in ſhort, theſe two following.

The grounds of probability are two; conformity with our own experience, or the teſtimony of others experience.

Firſt, the conformity of any thing with our own knowledge, obſervation, and experience.

Secondly, the teſtimony of others, vouching their obſervation and experience. In the teſtimony of others, is to be conſidered, 1. The number. 2. The integrity. 3. The ſkill of the witneſſes. 4. The deſign of the author, where it is a teſtimony out of a book cited. 5. The conſiſtency of the parts, and circumſtances of the relation. 6. Contrary teſtimonies.

§. 5. Probability wanting that intuitive evidence, which infallibly determines the underſtanding, and produces certain knowledge, the mind, if it would proceed rationally, ought to examine all the grounds of probability, and ſee how they make more or leſs for or againſt any propoſition, before it aſſents to, or diſſents from it; and upon a due balancing the whole, reject, or receive it, with a more or leſs firm aſſent, proportionally to the preponderancy of the greater grounds of probability on one ſide or the other. For example:

In this all the arguments pro and con ought to be examined before we come to a judgment.

If I myſelf ſee a man walk on the ice, it is paſt probability, it is knowledge; but if another tells me he ſaw a man in England, in the midſt of a ſharp winter, walk upon water hardened with cold; this has ſo great conformity with what is uſually obſerved to happen, that I am diſpoſed by the nature of the thing itſelf to aſſent to it, unleſs ſome manifeſt ſuſpicion attend the relation of that matter of fact. But if the ſame thing be told to one born between the tropics, who never ſaw nor heard of any ſuch thing before, there the whole probability relies on teſtimony: and as the relators are more in number, and of more credit, and have no intereſt to

ſpeak contrary to the truth; ſo that matter of fact is like to find more or leſs belief. Though to a man, whoſe experience has always been quite contrary, and who has never heard of any thing like it, the moſt untainted credit of a witneſs will ſcarce be able to find belief. As it happened to a Dutch ambaſſador, who entertaining the king of Siam with the particularities of Holland, which he was inquiſitive after, amongſt other things told him, that the water in his country would ſometimes, in cold weather, be ſo hard, that men walked upon it, and that it would bear an elephant if he were there. To which the king replied, "Hitherto I have "believed the ſtrange things you have told me, becauſe "I look upon you as a ſober fair man, but now I am "ſure you lye."

They being capable of great variety.

§. 6. Upon theſe grounds depends the probability of any propoſition: and as the conformity of our knowledge, as the certainty of obſervations, as the frequency and conſtancy of experience, and the number and credibility of teſtimonies, do more or leſs agree or diſagree with it, ſo is any propoſition in itſelf more or leſs probable. There is another, I confeſs, which, though by itſelf it be no true ground of probability, yet is often made uſe of for one, by which men moſt commonly regulate their aſſent, and upon which they pin their faith more than any thing elſe, and that is the opinion of others: though there cannot be a more dangerous thing to rely on, nor more likely to miſlead one; ſince there is much more falſhood and errour among men, than truth and knowledge. And if the opinions and perſuaſions of others, whom we know and think well of, be a ground of aſſent, men have reaſon to be Heathens in Japan, Mahometans in Turky, Papiſts in Spain, Proteſtants in England, and Lutherans in Sweden. But of this wrong ground of aſſent I ſhall have occaſion to ſpeak more at large in another place.

CHAP.

CHAP. XVI.

Of the Degrees of Aſſent.

§. 1. THE grounds of probability we have laid down in the foregoing chapter; as they are the foundations on which our aſſent is built, ſo are they alſo the meaſure whereby its ſeveral degrees are, or ought to be regulated: only we are to take notice, that whatever grounds of probability there may be, they yet operate no farther on the mind, which ſearches after truth, and endeavours to judge right, than they appear; at leaſt in the firſt judgment or ſearch that the mind makes. I confeſs, in the opinions men have, and firmly ſtick to, in the world, their aſſent is not always from an actual view of the reaſons that at firſt prevailed with them: it being in many caſes almoſt impoſſible, and in moſt very hard, even for thoſe who have very admirable memories, to retain all the proofs, which upon a due examination made them embrace that ſide of the queſtion. It ſuffices that they have once with care and fairneſs ſifted the matter as far as they could; and that they have ſearched into all the particulars, that they could imagine to give any light to the queſtion; and with the beſt of their ſkill caſt up the account upon the whole evidence: and thus having once found on which ſide the probability appeared to them, after as full and exact an inquiry as they can make, they lay up the concluſion in their memories, as a truth they have diſcovered; and for the future they remain ſatisfied with the teſtimony of their memories, that this is the opinion, that by the proofs they have once ſeen of it deſerves ſuch a degree of their aſſent as they afford it.

Our aſſent ought to be regulated by the grounds of probability.

§. 2. This is all that the greateſt part of men are capable of doing, in regulating their opinions and judgments; unleſs a man will exact of them, either to retain diſtinctly in their memories all the proofs concerning

Theſe cannot always be actually in view, and then we muſt

content ourſelves with the remembrance that we once ſaw ground for ſuch a degree of aſſent.

any probable truth, and that too in the ſame order, and regular deduction of conſequences in which they have formerly placed or ſeen them; which ſometimes is enough to fill a large volume on one ſingle queſtion: or elſe they muſt require a man, for every opinion that he embraces, every day to examine the proofs: both which are impoſſible. It is unavoidable therefore that the memory be relied on in the caſe, and that men be perſuaded of ſeveral opinions, whereof the proofs are not actually in their thoughts; nay, which perhaps they are not able actually to recal. Without this the greateſt part of men muſt be either very ſceptics, or change every moment, and yield themſelves up to whoever, having lately ſtudied the queſtion, offers them arguments; which, for want of memory, they are not able preſently to anſwer.

The ill conſequence of this, if our former judgments were not rightly made.

§. 3. I cannot but own, that men's ſticking to their paſt judgment, and adhering firmly to concluſions formerly made, is often the cauſe of great obſtinacy in errour and miſtake. But the fault is not that they rely on their memories for what they have before well judged; but becauſe they judged before they had well examined. May we not find a great number (not to ſay the greateſt part) of men that think they have formed right judgments of ſeveral matters; and that for no other reaſon, but becauſe they never thought otherwiſe? who imagine themſelves to have judged right, only becauſe they never queſtioned, never examined their own opinions? Which is indeed to think they judged right, becauſe they never judged at all: and yet theſe of all men hold their opinions with the greateſt ſtiffneſs; thoſe being generally the moſt fierce and firm in their tenets, who have leaſt examined them. What we once know, we are certain is ſo: and we may be ſecure, that there are no latent proofs undiſcovered, which may overturn our knowledge, or bring it in doubt. But, in matters of probability, it is not in every caſe we can be ſure that we have all the particulars before us, that any way concern the queſtion; and that

there is no evidence behind, and yet unſeen, which may caſt the probability on the other ſide, and outweigh all that at preſent ſeems to preponderate with us. Who almoſt is there that hath the leiſure, patience, and means, to collect together all the proofs concerning moſt of the opinions he has, ſo as ſafely to conclude that he hath a clear and full view; and that there is no more to be alledged for his better information? And yet we are forced to determine ourſelves on the one ſide or other. The conduct of our lives, and the management of our great concerns, will not bear delay: for thoſe depend, for the moſt part, on the determination of our judgment in points wherein we are not capable of certain and demonſtrative knowledge, and wherein it is neceſſary for us to embrace the one ſide or the other.

The right uſe of it, is mutual charity and forbearance.

§. 4. Since therefore it is unavoidable to the greateſt part of men, if not all, to have ſeveral opinions, without certain and indubitable proofs of their truth; and it carries too great an imputation of ignorance, lightneſs, or folly, for men to quit and renounce their former tenets preſently upon the offer of an argument, which they cannot immediately anſwer, and ſhow the inſufficiency of: it would methinks become all men to maintain peace, and the common offices of humanity and friendſhip, in the diverſity of opinions; ſince we cannot reaſonably expect, that any one ſhould readily and obſequiouſly quit his own opinion, and embrace ours with a blind reſignation to an authority, which the underſtanding of man acknowledges not. For however it may often miſtake, it can own no other guide but reaſon, nor blindly ſubmit to the will and dictates of another. If he, you would bring over to your ſentiments, be one that examines before he aſſents, you muſt give him leave at his leiſure to go over the account again, and, recalling what is out of his mind, examine all the particulars, to ſee on which ſide the advantage lies: and if he will not think our arguments of weight enough to engage him a-new in ſo much pains, it is but what we often do ourſelves in the like caſe; and we ſhould take it amiſs if others ſhould preſcribe to us what points we

ſhould ſtudy. And if he be one who takes his opinions upon truſt, how can we imagine that he ſhould renounce thoſe tenets which time and cuſtom have ſo ſettled in his mind, that he thinks them ſelf-evident, and of an unqueſtionable certainty; or which he takes to be impreſſions he has received from God himſelf, or from men ſent by him? How can we expect, I ſay, that opinions thus ſettled ſhould be given up to the arguments or authority of a ſtranger, or adverſary; eſpecially if there be any ſuſpicion of intereſt or deſign, as there never fails to be, where men find themſelves ill treated? We ſhould do well to commiſerate our mutual ignorance, and endeavour to remove it in all the gentle and fair ways of information; and not inſtantly treat others ill, as obſtinate and perverſe, becauſe they will not renounce their own, and receive our opinions, or at leaſt thoſe we would force upon them, when it is more than probable, that we are no leſs obſtinate in not embracing ſome of theirs. For where is the man that has inconteſtable evidence of the truth of all that he holds, or of the falſhood of all he condemns; or can ſay, that he has examined to the bottom all his own, or other men's opinions? The neceſſity of believing, without knowledge, nay often upon very ſlight grounds, in this fleeting ſtate of action and blindneſs we are in, ſhould make us more buſy and careful to inform ourſelves, than conſtrain others. At leaſt thoſe, who have not thoroughly examined to the bottom all their own tenets, muſt confeſs they are unfit to preſcribe to others; and are unreaſonable in impoſing that as truth on other men's belief, which they themſelves have not ſearched into, nor weighed the arguments of probability, on which they ſhould receive or reject it. Thoſe who have fairly and truly examined, and are thereby got paſt doubt in all the doctrines they profeſs and govern themſelves by, would have a juſter pretence to require others to follow them: but theſe are ſo few in number, and find ſo little reaſon to be magiſterial in their opinions, that nothing inſolent and imperious is to be expected from them: and there is reaſon to think, that, if men were better inſtructed themſelves, they would be leſs impoſing on others.

§. 5

Probability is either of matter of fact or ſpeculation.

§. 5. But to return to the grounds of aſſent, and the ſeveral degrees of it, we are to take notice, that the propoſitions we receive upon inducements of probability, are of two ſorts; either concerning ſome particular exiſtence, or, as it is uſually termed, matter of fact, which falling under obſervation, is capable of human teſtimony; or elſe concerning things, which being beyond the diſcovery of our ſenſes, are not capable of any ſuch teſtimony.

The concurrent experience of all other men with ours produces aſſurance approaching to knowledge.

§. 6. Concerning the firſt of theſe, viz. particular matter of fact.

Firſt, where any particular thing, conſonant to the conſtant obſervation of ourſelves and others in the like caſe, comes atteſted by the concurrent reports of all that mention it, we receive it as eaſily, and build as firmly upon it, as if it were certain knowledge; and we reaſon and act thereupon with as little doubt, as if it were perfect demonſtration. Thus, if all Engliſhmen who have occaſion to mention it, ſhould affirm that it froze in England the laſt winter, or that there were ſwallows ſeen there in the ſummer; I think a man could almoſt as little doubt of it, as that ſeven and four are eleven. The firſt therefore, and higheſt degree of probability, is, when the general conſent of all men, in all ages, as far as it can be known, concurs with a man's conſtant and never-failing experience in like caſes, to confirm the truth of any particular matter of fact atteſted by fair witneſſes: ſuch are all the ſtated conſtitutions and properties of bodies, and the regular proceedings of cauſes and effects in the ordinary courſe of nature. This we call an argument from the nature of things themſelves. For what our own and other men's conſtant obſervation has found always to be after the ſame manner, that we with reaſon conclude to be the effect of ſteady and regular cauſes, though they come not within the reach of our knowledge. Thus, that fire warmed a man, made lead fluid, and changed the colour or conſiſtency in wood or charcoal; that iron ſunk in water, and ſwam in quickſilver; theſe and the like

like propoſitions about particular facts, being agreeable to our conſtant experience, as often as we have to do with theſe matters: and being generally ſpoke of (when mentioned by others) as things found conſtantly to be ſo, and therefore not ſo much as controverted by any body; we are put paſt doubt, that a relation affirming any ſuch thing to have been, or any predication that it will happen again in the ſame manner, is very true. Theſe probabilities riſe ſo near to certainty, that they govern our thoughts as abſolutely, and influence all our actions as fully, as the moſt evident demonſtration; and in what concerns us, we make little or no difference between them and certain knowledge. Our belief, thus grounded, riſes to aſſurance.

Unqueſtionable teſtimony and experience for the moſt part produce confidence.

§. 7. Secondly, the next degree of probability is, when I find by my own experience, and the agreement of all others that mention it, a thing to be, for the moſt part, ſo; and that the particular inſtance of it is atteſted by many and undoubted witneſſes, v. g. hiſtory giving us ſuch an account of men in all ages; and my own experience, as far as I had an opportunity to obſerve confirming it, that moſt men prefer their private advantage to the public: if all hiſtorians that write of Tiberius ſay that Tiberius did ſo, it is extremely probable. And in this caſe, our aſſent has a ſufficient foundation to raiſe itſelf to a degree which we may call confidence.

Fair teſtimony, and the nature of the thing indifferent, produce alſo confident belief.

§. 8. Thirdly, in things that happen indifferently, as that a bird ſhould fly this or that way; that it ſhould thunder on a man's right or left hand, &c. when any particular matter of fact is vouched by the concurrent teſtimony of unſuſpected witneſſes, there our aſſent is alſo unavoidable. Thus, that there is ſuch a city in Italy as Rome; that about one thouſand ſeven hundred years ago, there lived in it a man, called Julius Cæſar; that he was a general, and that he won a battle againſt another, called Pompey: this, though in the nature of the thing there be nothing for nor againſt it, yet being related by hiſtorians of credit,

credit, and contradicted by no one writer, a man cannot avoid believing it, and can as little doubt of it, as he does of the being and actions of his own acquaintance, whereof he himſelf is a witneſs.

Experiences and teſtimonies claſhing infinitely vary the degrees of probability.

§. 4. Thus far the matter goes eaſy enough. Probability upon ſuch grounds carries ſo much evidence with it, that it naturally determines the judgment, and leaves us as little liberty to believe, or diſbelieve, as a demonſtration does, whether we will know, or be ignorant. The difficulty is, when teſtimonies contradict common experience, and the reports of hiſtory and witneſſes claſh with the ordinary courſe of nature, or with one another; there it is, where diligence, attention, and exactneſs are required, to form a right judgment, and to proportion the aſſent to the different evidence and probability of the thing; which riſes and falls, according as thoſe two foundations of credibility, viz. common obſervation in like caſes, and particular teſtimonies in that particular inſtance, favour or contradict it. Theſe are liable to ſo great variety of contrary obſervations, circumſtances, reports, different qualifications, tempers, deſigns, overſights, &c. of the reporters, that it is impoſſible to reduce to preciſe rules the various degrees wherein men give their aſſent. This only may be ſaid in general, that as the arguments and proofs pro and con, upon due examination, nicely weighing every particular circumſtance, ſhall to any one appear, upon the whole matter, in a greater or leſs degree, to preponderate on either ſide; ſo they are fitted to produce in the mind ſuch different entertainment, as we call belief, conjecture, gueſs, doubt, wavering, diſtruſt, diſbelief, &c.

Traditional teſtimonies the farther removed, the leſs their proof.

§. 10. This is what concerns aſſent in matters wherein teſtimony is made uſe of: concerning which, I think, it may not be amiſs to take notice of a rule obſerved in the law of England; which is, that though the atteſted copy of a record be good proof, yet the copy of a copy ever ſo well atteſted, and by ever ſo credible witneſſes, will not be admitted as a proof in

judicature. This is ſo generally approved as reaſonable, and ſuited to the wiſdom and caution to be uſed in our inquiry after material truths, that I never yet heard of any one that blamed it. This practice, if it be allowable in the deciſions of right and wrong, carries this obſervation along with it, viz. that any teſtimony, the farther off it is from the original truth, the leſs force and proof it has. The being and exiſtence of the thing itſelf is what I call the original truth. A credible man vouching his knowledge of it is a good proof: but if another equally credible do witneſs it from his report, the teſtimony is weaker; and a third that atteſts the hear-ſay of an hear-ſay, is yet leſs conſiderable. So that in traditional truths, each remove weakens the force of the proof; and the more hands the tradition has ſucceſſively paſſed through, the leſs ſtrength and evidence does it receive from them. This I thought neceſſary to be taken notice of, becauſe I find amongſt ſome men the quite contrary commonly practiſed, who look on opinions to gain force by growing older; and what a thouſand years ſince would not, to a rational man, contemporary with the firſt voucher, have appeared at all probable, is now urged as certain beyond all queſtion, only becauſe ſeveral have ſince, from him, ſaid it one after another. Upon this ground, propoſitions, evidently falſe or doubtful enough in their firſt beginning, come by an inverted rule of probability to paſs for authentic truths; and thoſe which found or deſerved little credit from the mouths of their firſt authors, are thought to grow venerable by age, and are urged as undeniable.

Yet hiſtory is of great uſe.

§. 11. I would not be thought here to leſſen the credit and uſe of hiſtory: it is all the light we have in many caſes, and we receive from it a great part of the uſeful truths we have, with a convincing evidence. I think nothing more valuable than the records of antiquity: I wiſh we had more of them, and more uncorrupted. But this truth itſelf forces me to ſay, that no probability can ariſe higher than its firſt original. What has no other evidence than the ſingle teſtimony of one only witneſs, muſt ſtand or fall by his only teſtimony, whether good, bad,

bad, or indifferent; and though cited afterwards by hundreds of others, one after another, is ſo far from receiving any ſtrength thereby, that it is only the weaker. Paſſion, intereſt, inadvertency, miſtake of his meaning, and a thouſand odd reaſons, or capricio's, men's minds are acted by (impoſſible to be diſcovered) may make one man quote another man's words or meaning wrong. He that has but ever ſo little examined the citations of writers, cannot doubt how little credit the quotations deſerve, where the originals are wanting; and conſequently how much leſs quotations of quotations can be relied on. This is certain, that what in one age was affirmed upon ſlight grounds, can never after come to be more valid in future ages, by being often repeated. But the farther ſtill it is from the original, the leſs valid it is, and has always leſs force in the mouth or writing of him that laſt made uſe of it, than in his from whom he received it.

In things which ſenſe cannot diſcover, analogy is the great rule of probability.

§. 12. The probabilities we have hitherto mentioned are only ſuch as concern matter of fact, and ſuch things as are capable of obſervation and teſtimony. There remains that other ſort, concerning which men entertain opinions with variety of aſſent, though the things be ſuch, that, falling not under the reach of our ſenſes, they are not capable of teſtimony. Such are, 1. The exiſtence, nature, and operations of finite immaterial beings without us; as ſpirits, angels, devils, &c. or the exiſtence of material beings; which either for their ſmallneſs in themſelves, or remoteneſs from us, our ſenſes cannot take notice of; as whether there be any plants, animals, and intelligent inhabitants in the planets, and other manſions of the vaſt univerſe. 2. Concerning the manner of operation in moſt parts of the works of nature: wherein though we ſee the ſenſible effects, yet their cauſes are unknown, and we perceive not the ways and manner how they are produced. We ſee animals are generated, nouriſhed, and move; the loadſtone draws iron; and the parts of a candle, ſucceſſively melting, turn into flame, and give us both light and heat. Theſe and the like effects we

ſee

ſee and know: but the cauſes that operate, and the manner they are produced in, we can only gueſs and probably conjecture. For theſe and the like, coming not within the ſcrutiny of human ſenſes, cannot be examined by them, or be atteſted by any body; and therefore can appear more or leſs probable, only as they more or leſs agree to truths that are eſtabliſhed in our minds, and as they hold proportion to other parts of our knowledge and obſervation. Analogy in theſe matters is the only help we have, and it is from that alone we draw all our grounds of probability. Thus obſerving that the bare rubbing of two bodies violently one upon another produces heat, and very often fire itſelf, we have reaſon to think, that what we call heat and fire conſiſts in a violent agitation of the imperceptible minute parts of the burning matter: obſerving likewiſe that the different refractions of pellucid bodies produce in our eyes the different appearances of ſeveral colours; and alſo that the different ranging and laying the ſuperficial parts of ſeveral bodies, as of velvet, watered ſilk, &c. does the like, we think it probable that the colour and ſhining of bodies is in them nothing but the different arrangement and refraction of their minute and inſenſible parts. Thus finding in all parts of the creation, that fall under human obſervation, that there is a gradual connexion of one with another, without any great or diſcernible gaps between, in all that great variety of things we ſee in the world, which are ſo cloſely linked together, that in the ſeveral ranks of beings, it is not eaſy to diſcover the bounds betwixt them; we have reaſon to be perſuaded, that by ſuch gentle ſteps things aſcend upwards in degrees of perfection. It is a hard matter to ſay where ſenſible and rational begin, and where inſenſible and irrational end: and who is there quick-ſighted enough to determine preciſely, which is the loweſt ſpecies of living things, and which the firſt of thoſe which have no life? Things, as far as we can obſerve, leſſen and augment, as the quantity does in a regular cone; where though there be a manifeſt odds betwixt the bigneſs of the diameter at a remote diſtance, *yet the difference* between the upper and under, where they

they touch one another, is hardly diſcernible. The difference is exceeding great between ſome men, and ſome animals; but if we will compare the underſtanding and abilities of ſome men and ſome brutes, we ſhall find ſo little difference, that it will be hard to ſay, that that of the man is either clearer or larger. Obſerving, I ſay, ſuch gradual and gentle deſcents downwards in thoſe parts of the creation that are beneath man, the rule of analogy may make it probable, that it is ſo alſo in things above us and our obſervation; and that there are ſeveral ranks of intelligent beings, excelling us in ſeveral degrees of perfection, aſcending upwards towards the infinite perfection of the Creator, by gentle ſteps and differences, that are every one at no great diſtance from the next to it. This ſort of probability, which is the beſt conduct of rational experiments, and the riſe of hypotheſis, has alſo its uſe and influence; and a wary reaſoning from analogy leads us often into the diſcovery of truths and uſeful productions, which would otherwiſe lie concealed.

One caſe where contrary experience leſſens not the teſtimony.

§. 13. Though the common experience and the ordinary courſe of things have juſtly a mighty influence on the minds of men, to make them give or refuſe credit to any thing propoſed to their belief; yet there is one caſe, wherein the ſtrangeneſs of the fact leſſens not the aſſent to a fair teſtimony given of it. For where ſuch ſupernatural events are ſuitable to ends aimed at by him, who has the power to change the courſe of nature, there, under ſuch circumſtances, they may be the fitter to procure belief, by how much the more they are beyond, or contrary to ordinary obſervation. This is the proper caſe of miracles, which well atteſted do not only find credit themſelves, but give it alſo to other truths, which need ſuch confirmation.

The bare teſtimony of revelation is the higheſt certainty.

§. 14. Beſides thoſe we have hitherto mentioned, there is one ſort of propoſitions that challenge the higheſt degree of our aſſent upon bare teſtimony, whether the thing propoſed agree or diſagree with common experience, and the ordinary courſe of things, or

no. The reaſon whereof is, becauſe the teſtimony is of ſuch an one, as cannot deceive, nor be deceived, and that is of God himſelf. This carries with it an aſſurance beyond doubt, evidence beyond exception. This is called by a peculiar name, revelation; and our aſſent to it, faith: which as abſolutely determines our minds, and as perfectly excludes all wavering, as our knowledge itſelf; and we may as well doubt of our own being, as we can, whether any revelation from God be true. So that faith is a ſettled and ſure principle of aſſent and aſſurance, and leaves no manner of room for doubt or heſitation. Only we muſt be ſure, that it be a divine revelation, and that we underſtand it right: elſe we ſhall expoſe ourſelves to all the extravagancy of enthuſiaſm, and all the errour of wrong principles, if we have faith and aſſurance in what is not divine revelation. And therefore in thoſe caſes, our aſſent can be rationally no higher than the evidence of its being a revelation. and that this is the meaning of the expreſſions it is delivered in. If the evidence of its being a revelation, or that this is its true ſenſe, be only on probable proofs; our aſſent can reach no higher than an aſſurance or diffidence, ariſing from the more or leſs apparent probability of the proofs. But of faith, and the precedency it ought to have before other arguments of perſuaſion, I ſhall ſpeak more hereafter, where I treat of it, as it is ordinarily placed, in contradiſtinction to reaſon; though in truth it be nothing elſe but an aſſent founded on the higheſt reaſon.

CHAP. XVII.

Of Reaſon.

Various ſignifications of the word reaſon.

§. 1. THE word reaſon in the Engliſh language has different ſignifications: ſometimes it is taken for true and clear principles; ſometimes for clear and fair deductions from thoſe principles; and ſometimes for

for the cauſe, and particularly the final cauſe. But the conſideration I ſhall have of it here, is in a ſignification different from all theſe: and that is, as it ſtands for a faculty in man, that faculty whereby man is ſuppoſed to be diſtinguiſhed from beaſts, and wherein it is evident he much ſurpaſſes them.

Wherein reaſoning conſiſts.

§. 2. If general knowledge, as has been ſhown, conſiſts in a perception of the agreement or diſagreement of our own ideas; and the knowledge of the exiſtence of all things without us (except only of a God, whoſe exiſtence every man may certainly know and demonſtrate to himſelf from his own exiſtence) be had only by our ſenſes: what room is there for the exerciſe of any other faculty, but outward ſenſe and inward perception? What need is there of reaſon? Very much; both for the enlargement of our knowledge, and regulating our aſſent: for it hath to do both in knowledge and opinion, and is neceſſary and aſſiſting to all our other intellectual faculties, and indeed contains two of them, viz. ſagacity and illation. By the one, it finds out; and by the other, it ſo orders the intermediate ideas, as to diſcover what connexion there is in each link of the chain, whereby the extremes are held together; and thereby, as it were, to draw into view the truth ſought for, which is that which we call illation or inference, and conſiſts in nothing but the perception of the connexion there is between the ideas, in each ſtep of the deduction, whereby the mind comes to ſee either the certain agreement or diſagreement of any two ideas, as in demonſtration, in which it arrives at knowledge; or their probable connexion, on which it gives or withholds its aſſent, as in opinion. Senſe and intuition reach but a very little way. The greateſt part of our knowledge depends upon deductions and intermediate ideas: and in thoſe caſes, where we are fain to ſubſtitute aſſent inſtead of knowledge, and take propoſitions for true, without being certain they are ſo, we have need to find out, examine, and compare the grounds of their probability. In both theſe caſes, the faculty which finds out the means, and rightly applies them to diſcover certainty in the one, and probability in the

other, is that which we call reaſon. For as reaſon perceives the neceſſary and indubitable connexion of all the ideas or proofs one to another, in each ſtep of any demonſtration that produces knowledge; ſo it likewiſe perceives the probable connexion of all the ideas or proofs one to another, in every ſtep of a diſcourſe, to which it will think aſſent due. This is the loweſt degree of that which can be truly called reaſon. For where the mind does not perceive this probable connexion, where it does not diſcern whether there be any ſuch connexion or no; there men's opinions are not the product of judgment, or the conſequence of reaſon, but the effects of chance and hazard, of a mind floating at all adventures, without choice and without direction.

Its four parts. §. 3. So that we may in reaſon conſider theſe four degrees; the firſt and higheſt is the diſcovering and finding out of truths; the ſecond, the regular and methodical diſpoſition of them, and laying them in a clear and fit order, to make their connexion and force be plainly and eaſily perceived: the third is the perceiving their connexion; and the fourth, a making a right concluſion. Theſe ſeveral degrees may be obſerved in any mathematical demonſtration; it being one thing to perceive the connexion of each part, as the demonſtration is made by another; another, to perceive the dependence of the concluſion on all the parts; a third, to make out a demonſtration clearly and neatly one's ſelf; and ſomething different from all theſe, to have firſt found out theſe intermediate ideas or proofs by which it is made.

Syllogiſm not the great inſtrument of reaſon. §. 4. There is one thing more, which I ſhall deſire to be conſidered concerning reaſon; and that is, whether ſyllogiſm, as is generally thought, be the proper inſtrument of it, and the uſefulleſt way of exerciſing this faculty. The cauſes I have to doubt are theſe.

Firſt, becauſe ſyllogiſm ſerves our reaſon but in one only of the forementioned parts of it; and that is, to ſhow the connexion of the proofs in any one inſtance, and no more; but in this it is of no great uſe, ſince the mind

mind can conceive ſuch connexion where it really is, as eaſily, nay perhaps better, without it.

If we will obſerve the actings of our own minds, we ſhall find that we reaſon beſt and cleareſt, when we only obſerve the connexion of the proof, without reducing our thoughts to any rule of ſyllogiſm. And therefore we may take notice, that there are many men that reaſon exceeding clear and rightly, who know not how to make a ſyllogiſm. He that will look into many parts of Aſia and America, will find men reaſon there perhaps as acutely as himſelf, who yet never heard of a ſyllogiſm, nor can reduce any one argument to thoſe forms: and I believe ſcarce any one makes ſyllogiſms in reaſoning within himſelf. Indeed ſyllogiſm is made uſe of on occaſion, to diſcover a fallacy hid in a rhetorical flouriſh, or cunningly wrapt up in a ſmooth period; and, ſtripping an abſurdity of the cover of wit and good language, ſhow it in its naked deformity. But the weakneſs or fallacy of ſuch a looſe diſcourſe it ſhows, by the artificial form it is put into, only to thoſe who have thoroughly ſtudied mode and figure, and have ſo examined the many ways that three propoſitions may be put together, as to know which of them does certainly conclude right, and which not, and upon what grounds it is that they do ſo. All who have ſo far conſidered ſyllogiſm, as to ſee the reaſon why in three propoſitions laid together in one form, the concluſion will be certainly right, but in another, not certainly ſo; I grant are certain of the concluſion they draw from the premiſes in the allowed modes and figures. But they who have not ſo far looked into thoſe forms, are not ſure by virtue of ſyllogiſm, that the concluſion certainly follows from the premiſes; they only take it to be ſo by an implicit faith in their teachers, and a confidence in thoſe forms of argumentation; but this is ſtill but believing, not being certain. Now if, of all mankind, thoſe who can make ſyllogiſms are extremely few in compariſon of thoſe who cannot; and if, of thoſe few who have been taught logic, there is but a very ſmall number, who do any more than believe that ſyllogiſms in the allowed modes and figures do conclude right, without knowing cer-

tainly that they do ſo; if ſyllogiſms muſt be taken for the only proper inſtrument of reaſon and means of knowledge; it will follow, that before Ariſtotle there was not one man that did or could know any thing by reaſon; and that ſince the invention of ſyllogiſms, there is not one of ten thouſand that doth.

But God has not been ſo ſparing to men to make them barely two-legged creatures, and left it to Ariſtotle to make them rational, i. e. thoſe few of them that he could get ſo to examine the grounds of ſyllogiſms, as to ſee, that in above threeſcore ways, that three propoſitions may be laid together, there are but about fourteen, wherein one may be ſure that the concluſion is right; and upon what grounds it is, that in theſe few the concluſion is certain, and in the other not. God has been more bountiful to mankind than ſo. He has given them a mind that can reaſon, without being inſtructed in methods of ſyllogizing: the underſtanding is not taught to reaſon by theſe rules; it has a native faculty to perceive the coherence or incoherence of its ideas, and can range them right, without any ſuch perplexing repetitions. I ſay not this any way to leſſen Ariſtotle, whom I look on as one of the greateſt men amongſt the antients; whoſe large views, acuteneſs, and penetration of thought, and ſtrength of judgment, few have equalled: and who in this very invention of forms of argumentation, wherein the concluſion may be ſhown to be rightly inferred, did great ſervice againſt thoſe who were not aſhamed to deny any thing. And I readily own, that all right reaſoning may be reduced to his forms of ſyllogiſm. But yet I think, without any diminution to him, I may truly ſay, that they are not the only, nor the beſt way of reaſoning, for the leading of thoſe into truth who are willing to find it, and deſire to make the beſt uſe they may of their reaſon, for the attainment of knowledge. And he himſelf, it is plain, found out ſome forms to be concluſive, and others not, not by the forms themſelves, but by the original way of knowledge, i. e. by the viſible agreement of ideas. Tell a country gentlewoman that the wind is ſouth-weſt, and the weather louring, and like to rain, and ſhe will eaſily underſtand it is not

ſafe

ſafe for her to go abroad thin clad, in ſuch a day, after a fever: ſhe clearly ſees the probable connexion of all theſe, viz. ſouth-weſt wind, and clouds, rain, wetting, taking cold, relapſe, and danger of death, without tying them together in thoſe artificial and cumberſome fetters of ſeveral ſyllogiſms, that clog and hinder the mind, which proceeds from one part to another quicker and clearer without them; and the probability which ſhe eaſily perceives in things thus in their native ſtate would be quite loſt, if this argument were managed learnedly, and propoſed in mode and figure. For it very often confounds the connexion: and, I think, every one will perceive in mathematical demonſtrations, that the knowledge gained thereby comes ſhorteſt and cleareſt without ſyllogiſms.

Inference is looked on as the great act of the rational faculty, and ſo it is when it is rightly made; but the mind, either very deſirous to enlarge its knowledge, or very apt to favour the ſentiments it has once imbibed, is very forward to make inferences, and therefore often makes too much haſte, before it perceives the connexion of the ideas that muſt hold the extremes together.

To infer is nothing but, by virtue of one propoſition laid down as true, to draw in another as true, i. e. to ſee or ſuppoſe ſuch a connexion of the two ideas of the inferred propoſition, v. g. Let this be the propoſition laid down, "men ſhall be puniſhed in another world," and from thence be inferred this other, "then men can determine themſelves." The queſtion now is to know whether the mind has made this inference right or no; if it has made it by finding out the intermediate ideas, and taking a view of the connexion of them, placed in a due order, it has proceeded rationally, and made a right inference. If it has done it without ſuch a view, it has not ſo much made an inference that will hold, or an inference of right reaſon, as ſhown a willingneſs to have it be, or be taken for ſuch. But in neither caſe is it ſyllogiſm that diſcovered thoſe ideas, or ſhowed the connexion of them, for they muſt be both found out, and the connexion every where perceived, before they can rationally be made uſe of in ſyllogiſm: unleſs it can be

ſaid, that any idea, without conſidering what connexion it hath with the two other, whoſe agreement ſhould be ſhown by it, will do well enough in a ſyllogiſm, and may be taken at a venture for the medius terminus, to prove any concluſion. But this nobody will ſay, becauſe it is by virtue of the perceived agreement of the intermediate idea with the extremes, that the extremes are concluded to agree; and therefore each intermediate idea muſt be ſuch as in the whole chain hath a viſible connexion with thoſe two it has been placed between, or elſe thereby the concluſion cannot be inferred or drawn in: for wherever any link of the chain is looſe, and without connexion, there the whole ſtrength of it is loſt, and it hath no force to infer or draw in any thing. In the inſtance above-mentioned, what is it ſhows the force of the inference, and conſequently the reaſonableneſs of it, but a view of the connexion of all the intermediate ideas that draw in the concluſion, or propoſition inferred? v. g. men ſhall be puniſhed——God the puniſher——juſt puniſhment——the puniſhed guilty——could have done otherwiſe——freedom——ſelf-determination: by which chain of ideas thus viſibly linked together in train, i. e. each intermediate idea agreeing on each ſide with thoſe two it is immediately placed between, the ideas of men and ſelf-determination appear to be connected, i. e. this propoſition, men can determine themſelves, is drawn in, or inferred from this, that they ſhall be puniſhed in the other world. For here the mind ſeeing the connexion there is between the idea of men's puniſhment in the other world and the idea of God puniſhing; between God puniſhing and the juſtice of the puniſhment; between juſtice of the puniſhment and guilt; between guilt and a power to do otherwiſe; between a power to do otherwiſe and freedom; and between freedom and ſelf-determination; ſees the connexion between men and ſelf-determination.

Now I aſk whether the connexion of the extremes be not more clearly ſeen in this ſimple and natural diſpoſition, than in the perplexed repetitions, and jumble of five or ſix ſyllogiſms. I muſt beg pardon for calling it jumble,

jumble, till ſomebody ſhall put theſe ideas into ſo many ſyllogiſms, and then ſay, that they are leſs jumbled, and their connexion more viſible, when they are tranſpoſed and repeated, and ſpun out to a greater length in artificial forms, than in that ſhort and natural plain order they are laid down in here, wherein every one may ſee it; and wherein they muſt be ſeen before they can be put into a train of ſyllogiſms. For the natural order of the connecting ideas, muſt direct the order of the ſyllogiſms, and a man muſt ſee the connexion of each intermediate idea with thoſe that it connects, before he can with reaſon make uſe of it in a ſyllogiſm. And when all thoſe ſyllogiſms are made, neither thoſe that are, nor thoſe that are not logicians will ſee the force of the argumentation, i. e. the connexion of the extremes, one jot the better. [For thoſe that are not men of art, not knowing the true forms of ſyllogiſm, nor the reaſons of them, cannot know whether they are made in right and concluſive modes and figures or no, and ſo are not at all helped by the forms they are put into; though by them the natural order, wherein the mind could judge of their reſpective connexion, being diſturbed, renders the illation much more uncertain than without them.] And as for the logicians themſelves, they ſee the connexion of each intermediate idea with thoſe it ſtands between (on which the force of the inference depends) as well before as after the ſyllogiſm is made, or elſe they do not ſee it at all. For a ſyllogiſm neither ſhows nor ſtrengthens the connexion of any two ideas immediately put together, but only by the connexion ſeen in them ſhows what connexion the extremes have one with another. But what connexion the intermediate has with either of the extremes in that ſyllogiſm, that no ſyllogiſm does or can ſhow. That the mind only doth or can perceive as they ſtand there in that juxta-poſition only by its own view, to which the ſyllogiſtical form it happens to be in gives no help or light at all; it only ſhows that if the intermediate idea agrees with thoſe it is on both ſides immediately applied to; then thoſe two remote ones, or as they are called, extremes, do certainly agree, and therefore the immediate connexion of each idea to that

which it is applied to on each ſide, on which the force of the reaſoning depends, is as well ſeen before as after the ſyllogiſm is made, or elſe he that makes the ſyllogiſm could never ſee it at all. This, as has been already obſerved, is ſeen only by the eye, or the perceptive faculty of the mind, taking a view of them laid together, in a juxta-poſition; which view of any two it has equally, whenever they are laid together in any propoſition, whether that propoſition be placed as a major, or a minor, in a ſyllogiſm or no.

Of what uſe then are ſyllogiſms? I anſwer, their chief and main uſe is in the ſchools, where men are allowed without ſhame to deny the agreement of ideas that do manifeſtly agree; or out of the ſchools, to thoſe who from thence have learned without ſhame to deny the connexion of ideas, which even to themſelves is viſible. But to an ingenuous ſearcher after truth, who has no other aim but to find it, there is no need of any ſuch form to force the allowing of the inference: the truth and reaſonableneſs of it is better ſeen in ranging of the ideas in a ſimple and plain order: and hence it is, that men, in their own inquiries after truth, never uſe ſyllogiſms to convince themſelves, [or in teaching others to inſtruct willing learners.] Becauſe, before they can put them into a ſyllogiſm, they muſt ſee the connexion that is between the intermediate idea and the two other ideas it is ſet between and applied to, to ſhow their agreement; and when they ſee that, they ſee whether the inference be good or no, and ſo ſyllogiſm comes too late to ſettle it. For to make uſe again of the former inſtance; I aſk whether the mind, conſidering the idea of juſtice, placed as an intermediate idea between the puniſhment of men and the guilt of the puniſhed, (and, till it does ſo conſider it, the mind cannot make uſe of it as a medius terminus) does not as plainly ſee the force and ſtrength of the inference, as when it is formed into a ſyllogiſm. To ſhow it in a very plain and eaſy example; let animal be the intermediate idea or medius terminus that the mind makes uſe of to ſhow the connexion of homo and vivens: I aſk, whether the mind does not more readily and plainly ſee that connexion in the ſimple

and

and proper poſition of the connecting idea in the middle; thus,

Homo——————Animal——————Vivens,

Than in this perplexed one,

Animal——Vivens——Homo——Animal:

Which is the poſition theſe ideas have in a ſyllogiſm, to ſhow the connexion between homo and vivens by the intervention of animal.

Indeed ſyllogiſm is thought to be of neceſſary uſe, even to the lovers of truth, to ſhow them the fallacies that are often concealed in florid, witty, or involved diſcourſes. But that this is a miſtake will appear, if we conſider, that the reaſon why ſometimes men, who ſincerely aim at truth, are impoſed upon by ſuch looſe, and as they are called rhetorical diſcourſes, is, that their fancies being ſtruck with ſome lively metaphorical repreſentations, they neglect to obſerve, or do not eaſily perceive what are the true ideas, upon which the inference depends. Now to ſhow ſuch men the weakneſs of ſuch an argumentation, there needs no more but to ſtrip it of the ſuperfluous ideas, which, blended and confounded with thoſe on which the inference depends, ſeem to ſhow a connexion where there is none; or at leaſt do hinder the diſcovery of the want of it; and then to lay the naked ideas, on which the force of the argumentation depends, in their due order, in which poſition the mind, taking a view of them, ſees what connexion they have, and ſo is able to judge of the inference without any need of a ſyllogiſm at all.

I grant that mode and figure is commonly made uſe of in ſuch caſes, as if the detection of the incoherence of ſuch looſe diſcourſes were wholly owing to the ſyllogiſtical form; and ſo I myſelf formerly thought, till upon a ſtricter examination I now find, that laying the intermediate ideas naked in their due order, ſhows the incoherence of the argumentation better than ſyllogiſm; not only as ſubjecting each link of the chain to the immediate view of the mind in its proper place, whereby its connexion is beſt obſerved; but alſo becauſe ſyllogiſm

giſm ſhows the incoherence only to thoſe (who are not one of ten thouſand) who perfectly underſtand mode and figure, and the reaſon upon which thoſe forms are eſtabliſhed: whereas a due and orderly placing of the ideas upon which the inference is made, makes every one, whether logician or not logician, who underſtands the terms, and hath the faculty to perceive the agreement or diſagreement of ſuch ideas (without which, in or out of ſyllogiſm, he cannot perceive the ſtrength or weakneſs, coherence or incoherence of the diſcourſe) ſee the want of connexion in the argumentation, and the abſurdity of the inference.

And thus I have known a man unſkilful in ſyllogiſm, who at firſt hearing could perceive the weakneſs and inconcluſiveneſs of a long artificial and plauſible diſcourſe, wherewith others better ſkilled in ſyllogiſm have been miſled. And I believe there are few of my readers who do not know ſuch. And indeed if it were not ſo, the debates of moſt princes councils, and the buſineſs of aſſemblies would be in danger to be miſmanaged, ſince thoſe who are relied upon, and have uſually a great ſtroke in them, are not always ſuch, who have the good luck to be perfectly knowing in the forms of ſyllogiſm, or expert in mode and figure. And if ſyllogiſm were the only, or ſo much as the ſureſt way to detect the fallacies of artificial diſcourſes; I do not think that all mankind, even princes in matters that concern their crowns and dignities, are ſo much in love with falſhood and miſtake, that they would every where have neglected to bring ſyllogiſm into the debates of moment; or thought it ridiculous ſo much as to offer them in affairs of conſequence: a plain evidence to me, that men of parts and penetration, who were not idly to diſpute at their eaſe, but were to act according to the reſult of their debates, and often pay for their miſtakes with their heads or fortunes, found thoſe ſcholaſtic forms were of little uſe to diſcover truth or fallacy, whilſt both the one and the other might be ſhown, and better ſhown without them, to thoſe who would not refuſe to ſee what was viſibly ſhown them.

Secondly, another reaſon that makes me doubt whether ſyllogiſm be the only proper inſtrument of reaſon in the diſcovery of truth, is, that of whatever uſe, mode and figure is pretended to be in the laying open of fallacy (which has been above conſidered) thoſe ſcholaſtic forms of diſcourſe are not leſs liable to fallacies than the plainer ways of argumentation; and for this I appeal to common obſervation, which has always found theſe artificial methods of reaſoning more adapted to catch and entangle the mind, than to inſtruct and inform the underſtanding. And hence it is that men, even when they are baffled and ſilenced in this ſcholaſtic way, are ſeldom or never convinced, and ſo brought over to the conquering ſide: they perhaps acknowledge their adverſary to be the more ſkilful diſputant; but reſt nevertheleſs perſuaded of the truth on their ſide; and go away, worſted as they are, with the ſame opinion they brought with them, which they could not do, if this way of argumentation carried light and conviction with it, and made men ſee where the truth lay. And therefore ſyllogiſm has been thought more proper for the attaining victory in diſpute, than for the diſcovery or confirmation of truth in fair inquiries. And if it be certain, that fallacies can be couched in ſyllogiſm, as it cannot be denied; it muſt be ſomething elſe, and not ſyllogiſm, that muſt diſcover them.

I have had experience how ready ſome men are, when all the uſe which they have been wont to aſcribe to any thing is not allowed, to cry out, that I am for laying it wholly aſide. But, to prevent ſuch unjuſt and groundleſs imputations, I tell them, that I am not for taking away any helps to the underſtanding, in the attainment of knowledge. And if men ſkilled in, and uſed to ſyllogiſms, find them aſſiſting to their reaſon in the diſcovery of truth, I think they ought to make uſe of them. All that I aim at is, that they ſhould not aſcribe more to theſe forms than belongs to them; and think that men have no uſe, or not ſo full an uſe of their reaſoning faculty without them. Some eyes want ſpectacles to ſee things clearly and diſtinctly: but let not thoſe that uſe them therefore ſay, nobody can ſee clearly without them:

them: thoſe who do ſo will be thought in favour of art (which perhaps they are beholden to) a little too much to depreſs and diſcredit nature. Reaſon, by its own penetration where it is ſtrong and exerciſed, uſually ſees quicker and clearer without ſyllogiſm. If uſe of thoſe ſpectacles has ſo dimmed its ſight, that it cannot without them ſee conſequences or inconſequences in argumentation, I am not ſo unreaſonable as to be againſt the uſing them. Every one knows what beſt fits his own ſight. But let him not thence conclude all in the dark, who uſe not juſt the ſame helps that he finds a need of.

Helps little in demonſtration, leſs in probability.

§. 5. But however it be in knowledge, I think I may truly ſay, it is of far leſs, or no uſe at all in probabilities. For, the aſſent there being to be determined by the preponderancy, after due weighing of all the proofs, with all circumſtances on both ſides, nothing is ſo unfit to aſſiſt the mind in that, as ſyllogiſm; which running away with one aſſumed probability, or one topical argument, purſues that till it has led the mind quite out of ſight of the thing under conſideration; and forcing it upon ſome remote difficulty, holds it faſt there, intangled perhaps, and as it were manacled in the chain of ſyllogiſms, without allowing it the liberty, much leſs affording it the helps, requiſite to ſhow on which ſide, all things conſidered, is the greater probability.

Serves not to increaſe our knowledge, but fence with it.

§. 6. But let it help us (as perhaps may be ſaid) in convincing men of their errours and miſtakes: (and yet I would fain ſee the man that was forced out of his opinion by dint of ſyllogiſm) yet ſtill it fails our reaſon in that part, which, if not its higheſt perfection, is yet certainly its hardeſt taſk, and that which we moſt need its help in; and that is the finding out of proofs, and making new diſcoveries. The rules of ſyllogiſm ſerve not to furniſh the mind with thoſe intermediate ideas that may ſhow the connexion of remote ones. This way of reaſoning diſcovers no new proofs, but is the art of marſhalling and ranging the old ones we have already. The forty-ſeventh propoſition of the firſt book of Euclid is very true; but the diſcovery of it, I think, not owing

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to any rules of common logic. A man knows firſt, and then he is able to prove ſyllogiſtically. So that ſyllogiſm comes after knowledge, and then a man has little or no need of it. But it is chiefly by the finding out thoſe ideas that ſhow the connexion of diſtant ones, that our ſtock of knowledge is increaſed, and that uſeful arts and ſciences are advanced. Syllogiſm at beſt is but the art of fencing with the little knowledge we have, without making any addition to it. And if a man ſhould employ his reaſon all this way, he will not do much otherwiſe than he, who having got ſome iron out of the bowels of the earth, ſhould have it beaten up all into ſwords, and put it into his ſervants hands to fence with, and bang one another. Had the king of Spain employed the hands of his people, and his Spaniſh iron ſo, he had brought to light but little of that treaſure that lay ſo long hid in the entrails of America. And I am apt to think, that he who ſhall employ all the force of his reaſon only in brandiſhing of ſyllogiſms, will diſcover very little of that maſs of knowledge, which lies yet concealed in the ſecret receſſes of nature; and which, I am apt to think, native ruſtic reaſon (as it formerly has done) is likelier to open a way to, and add to the common ſtock of mankind, rather than any ſcholaſtic proceeding by the ſtrict rule of mode and figure.

Other helps ſhould be ſought.

§. 7. I doubt not nevertheleſs, but there are ways to be found out to aſſiſt our reaſon in this moſt uſeful part; and this the judicious Hooker encourages me to ſay, who in his Eccl. Pol. l. 1. §. 6, ſpeaks thus: "If there might be added "the right helps of true art and learning (which helps, "I muſt plainly confeſs, this age of the world carrying "the name of a learned age, doth neither much know, "nor generally regard) there would undoubtedly be "almoſt as much difference in maturity of judgment "between men therewith inured, and that which men "now are, as between men that are now, and innocents." I do not pretend to have found, or diſcovered here any of thoſe right helps of art, this great man of deep thought mentions; but this is plain, that ſyllogiſm, and the logic now in uſe, which were as well known

known in his days, can be none of thoſe he means. It is ſufficient for me, if by a diſcourſe, perhaps ſomething out of the way, I am ſure as to me wholly new and unborrowed, I ſhall have given occaſion to others to caſt about for new diſcoveries, and to ſeek in their own thoughts, for thoſe right helps of art, which will ſcarce be found, I fear, by thoſe who ſervilely confine themſelves to the rules and dictates of others. For beaten tracks lead this ſort of cattle (as an obſerving Roman calls them) whoſe thoughts reach only to imitation, "non quo eundum eſt, ſed quo itur." But I can be bold to ſay, that this age is adorned with ſome men of that ſtrength of judgment, and largeneſs of comprehenſion, that if they would employ their thoughts on this ſubject, could open new and undiſcovered ways to the advancement of knowledge.

We reaſon about particulars.

§. 8. Having here had an occaſion to ſpeak of ſyllogiſm in general, and the uſe of it in reaſoning, and the improvement of our knowledge, it is fit, before I leave this ſubject, to take notice of one manifeſt miſtake in the rules of ſyllogiſm, viz. that no ſyllogiſtical reaſoning can be right and concluſive, but what has, at leaſt, one general propoſition in it. As if we could not reaſon, and have knowledge about particulars: whereas, in truth, the matter rightly conſidered, the immediate object of all our reaſoning and knowledge, is nothing but particulars. Every man's reaſoning and knowledge is only about the ideas exiſting in his own mind, which are truly, every one of them, particular exiſtences; and our knowledge and reaſon about other things, is only as they correſpond with thoſe of our particular ideas. So that the perception of the agreement or diſagreement of our particular ideas, is the whole and utmoſt of all our knowledge. Univerſality is but accidental to it, and conſiſts only in this, that the particular ideas, about which it is, are ſuch, as more than one particular thing can correſpond with, and be repreſented by. But the perception of the agreement or diſagreement of any two ideas, conſequently our own knowledge, is equally clear and certain, whether either, or both, or neither of thoſe ideas

ideas be capable of repreſenting more real beings than one, or no. One thing more I crave leave to offer about ſyllogiſm, before I leave it, viz. may one not upon juſt ground inquire whether the form ſyllogiſm now has, is that which in reaſon it ought to have? For the medius terminus being to join the extremes, i. e. the intermediate idea by its intervention, to ſhow the agreement or diſagreement of the two in queſtion; would not the poſition of the medius terminus be more natural, and ſhow the agreement or diſagreement of the extremes clearer and better, if it were placed in the middle between them? Which might be eaſily done by tranſpoſing the propoſitions, and making the medius terminus the predicate of the firſt, and the ſubject of the ſecond. As thus,

" Omnis homo eſt animal,
" Omne animal eſt vivens,
" Ergo omnis homo eſt vivens."

" Omne corpus eſt entenſum & ſolidum,
" Nullum extenſum & ſolidum eſt pura extenſio,
" Ergo corpus non eſt pura extenſio."

I need not trouble my reader with inſtances in ſyllogiſms, whoſe concluſions are particular. The ſame reaſon holds for the ſame form in them, as well as in the general.

1. Reaſon fails us for want of ideas.

§. 9. Reaſon, though it penetrates into the depths of the ſea and earth, elevates our thoughts as high as the ſtars, and leads us through the vaſt ſpaces and large rooms of this mighty fabric, yet it comes far ſhort of the real extent of even corporeal being; and there are many inſtances wherein it fails us: as,

Firſt, it perfectly fails us, where our ideas fail. It neither does, nor can extend itſelf farther than they do. And therefore wherever we have no ideas, our reaſoning ſtops, and we are at an end of our reckoning: and if at any time we reaſon about words, which do not ſtand for

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any ideas, it is only about thoſe ſounds, and nothing elſe.

2. Becauſe of obſcure and imperfect ideas.

§. 10. Secondly, our reaſon is often puzzled, and at a loſs, becauſe of the obſcurity, confuſion, or imperfection of the ideas it is employed about; and there we are involved in difficulties and contradictions. Thus not having any perfect idea of the leaſt extenſion of matter, nor of infinity, we are at a loſs about the diviſibility of matter; but having perfect, clear, and diſtinct ideas of number, our reaſon meets with none of thoſe inextricable difficulties in numbers, nor finds itſelf involved in any contradictions about them. Thus, we having but imperfect ideas of the operations of our minds, and of the beginning of motion, or thought, how the mind produces either of them in us, and much imperfecter yet of the operation of God; run into great difficulties about free created agents, which reaſon cannot well extricate itſelf out of.

3. For want of intermediate ideas.

§. 11. Thirdly, our reaſon is often at a ſtand, becauſe it perceives not thoſe ideas, which could ſerve to ſhow the certain or probable agreement or diſagreement of any other two ideas: and in this ſome men's faculties far outgo others. Till algebra, that great inſtrument and inſtance of human ſagacity, was diſcovered, men, with amazement, looked on ſeveral of the demonſtrations of antient mathematicians, and could ſcarce forbear to think the finding ſeveral of thoſe proofs to be ſomething more than human.

4. Becauſe of wrong principles.

§. 12. Fourthly, the mind, by proceeding upon falſe principles, is often engaged in abſurdities and difficulties, brought into ſtraits and contradictions, without knowing how to free itſelf; and in that caſe it is in vain to implore the help of reaſon, unleſs it be to diſcover the falſhood and reject the influence of thoſe wrong principles. Reaſon is ſo far from clearing the difficulties which the building upon falſe foundations brings a man into, that if he will purſue it, it entangles him the more, and engages him deeper in perplexities.

§. 13. Fifthly, as obſcure and imperfect ideas often involve our reaſon, ſo, upon the ſame ground, do dubious words, and uncertain ſigns, often in diſcourſes and arguings, when not warily attended to, puzzle men's reaſon, and bring them to a non-plus. But theſe two latter are our fault, and not the fault of reaſon. But yet the conſequences of them are nevertheleſs obvious; and the perplexities or errours they fill men's minds with, are every where obſervable.

5. Becauſe of doubtful terms.

§. 14. Some of the ideas that are in the mind, are ſo there, that they can be by themſelves immediately compared one with another: and in theſe the mind is able to perceive, that they agree or diſagree as clearly, as that it has them. Thus the mind perceives, that an arch of a circle is leſs than the whole circle, as clearly as it does the idea of a circle: and this therefore, as has been ſaid, I call intuitive knowledge; which is certain, beyond all doubt, and needs no probation, nor can have any; this being the higheſt of all human certainty. In this conſiſts the evidence of all thoſe maxims, which nobody has any doubt about, but every man (does not, as is ſaid, only aſſent to, but) knows to be true, as ſoon as ever they are propoſed to his underſtanding. In the diſcovery of, and aſſent to theſe truths, there is no uſe of the diſcurſive faculty, no need of reaſoning, but they are known by a ſuperior and higher degree of evidence. And ſuch, if I may gueſs at things unknown, I am apt to think, that angels have now, and the ſpirits of juſt men made perfect, ſhall have, in a future ſtate, of thouſands of things, which now either wholly eſcape our apprehenſions, or which, our ſhort-ſighted reaſon having got ſome faint glimpſe of, we, in the dark, grope after.

Our higheſt degree of knowledge is intuitive, without reaſoning.

§. 15. But though we have, here and there, a little of this clear light, ſome ſparks of bright knowledge; yet the greateſt part of our ideas are ſuch, that we cannot diſcern their agreement or diſagreement by an immediate com-

The next is demonſtration by reaſoning.

paring them. And in all theſe we have need of reaſoning, and muſt, by diſcourſe and inference, make our diſcoveries. Now of theſe there are two ſorts, which I ſhall take the liberty to mention here again.

Firſt, thoſe whoſe agreement or diſagreement, though it cannot be ſeen by an immediate putting them together, yet may be examined by the intervention of other ideas, which can be compared with them. In this caſe when the agreement or diſagreement of the intermediate idea, on both ſides with thoſe which we would compare, is plainly diſcerned, there it amounts to a demonſtration, whereby knowledge is produced; which though it be certain, yet it is not ſo eaſy, nor altogether ſo clear as intuitive knowledge. Becauſe in that there is barely one ſimple intuition, wherein there is no room for any the leaſt miſtake or doubt; the truth is ſeen all perfectly at once. In demonſtration, it is true, there is intuition too, but not altogether at once; for there muſt be a remembrance of the intuition of the agreement of the medium, or intermediate idea, with that we compared it with before, when we compare it with the other; and where there be many mediums, there the danger of the miſtake is the greater. For each agreement or diſagreement of the ideas muſt be obſerved and ſeen in each ſtep of the whole train, and retained in the memory, juſt as it is; and the mind muſt be ſure that no part of what is neceſſary to make up the demonſtration is omitted or overlooked. This makes ſome demonſtrations long and perplexed, and too hard for thoſe who have not ſtrength of parts diſtinctly to perceive, and exactly carry ſo many particulars orderly in their heads. And even thoſe, who are able to maſter ſuch intricate ſpeculations, are fain ſometimes to go over them again, and there is need of more than one review before they can arrive at certainty. But yet where the mind clearly retains the intuition it had of the agreement of any idea with another, and that with a third, and that with a fourth, &c. there the agreement of the firſt and the fourth is a demonſtration, and produces certain knowledge, which may be called rational knowledge, as the other is intuitive.

5 §. 16.

§. 16. Secondly, there are other ideas, whoſe agreement or diſagreement can no otherwiſe be judged of, but by the intervention of others, which have not a certain agreement with the extremes, but an uſual or likely one: and in theſe it is that the judgment is properly exerciſed, which is the acquieſcing of the mind, that any ideas do agree, by comparing them with ſuch probable mediums. This, though it never amounts to knowledge, no not to that which is the loweſt degree of it: yet ſometimes the intermediate ideas tie the extremes ſo firmly together, and the probability is ſo clear and ſtrong, that aſſent as neceſſarily follows it, as knowledge does demonſtration. The great excellency and uſe of the judgment is to obſerve right, and take a true eſtimate of the force and weight of each probability; and then, caſting them up all right together, chooſe that ſide which has the overbalance.

To ſupply the narrowneſs of this, we have nothing but judgment upon probable reaſoning.

§. 17. Intuitive knowledge is the perception of the certain agreement or diſagreement of two ideas immediately compared together.

Intuition, demonſtration, judgment.

Rational knowledge is the perception of the certain agreement or diſagreement of any two ideas, by the intervention of one or more other ideas.

Judgment is the thinking or taking two ideas to agree or diſagree, by the intervention of one or more ideas, whoſe certain agreement or diſagreement with them it does not perceive, but hath obſerved to be frequent and uſual.

§. 18. Though the deducing one propoſition from another, or making inferences in words, be a great part of reaſon, and that which it is uſually employed about; yet the principal act of ratiocination is the finding the agreement or diſagreement of two ideas one with another, by the intervention of a third. As a man, by a yard, finds two houſes to be of the ſame length, which could not be brought together to meaſure their equality by juxta-poſition. Words have their conſequences, as

Conſequences of words, and conſequences of ideas.

the ſigns of ſuch ideas: and things agree or diſagree, as really they are; but we obſerve it only by our ideas.

Four ſorts of arguments.

§. 19. Before we quit this ſubject, it may be worth our while a little to reflect on four ſorts of arguments, that men, in their reaſonings with others, do ordinarily make uſe of, to prevail on their aſſent; or at leaſt ſo to awe them, as to ſilence their oppoſition.

1. Ad verecundiam.

Firſt, the firſt is to allege the opinions of men, whoſe parts, learning, eminency, power, or ſome other cauſe has gained a name, and ſettled their reputation in the common eſteem with ſome kind of authority. When men are eſtabliſhed in any kind of dignity, it is thought a breach of modeſty for others to derogate any way from it, and queſtion the authority of men, who are in poſſeſſion of it. This is apt to be cenſured, as carrying with it too much of pride, when a man does not readily yield to the determination of approved authors, which is wont to be received with reſpect and ſubmiſſion by others: and it is looked upon as inſolence for a man to ſet up, and adhere to his own opinion, againſt the current ſtream of antiquity; or to put it in the balance againſt that of ſome learned doctor, or otherwiſe approved writer. Whoever backs his tenets with ſuch authorities, thinks he ought thereby to carry the cauſe, and is ready to ſtyle it impudence in any one who ſhall ſtand out againſt them. This, I think, may be called argumentum ad verecundiam.

2. Ad ignorantiam.

§. 20. Secondly, another way that men ordinarily uſe to drive others, and force them to ſubmit their judgments, and receive the opinion in debate, is to require the adverſary to admit what they allege as a proof, or to aſſign a better. And this I call argumentum ad ignorantiam.

3. Ad hominem.

§. 21. Thirdly, a third way is to preſs a man with conſequences drawn from his own principles, or conceſſions. This is already known under the name of argumentum ad hominem.

4. Ad judicium.

§. 22. Fourthly, the fourth is the uſing of proofs drawn from any of the foundations

of knowledge or probability. This I call argumentum ad judicium. This alone, of all the four, brings true inſtruction with it, and advances us in our way to knowledge. For, 1. It argues not another man's opinion to be right, becauſe I out of reſpect, or any other conſideration but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the ſame with him, becauſe I know not a better. 3. Nor does it follow that another man is in the right way, becauſe he has ſhown me that I am in the wrong. I may be modeſt, and therefore not oppoſe another man's perſuaſion: I may be ignorant, and not be able to produce a better: I may be in an errour, and another may ſhow me that I am ſo. This may diſpoſe me, perhaps, for the reception of truth, but helps me not to it; that muſt come from proofs and arguments, and light ariſing from the nature of things themſelves, and not from my ſhame-facedneſs, ignorance, or errour.

Above, contrary, and according to reaſon.

§. 23. By what has been before ſaid of reaſon, we may be able to make ſome gueſs at the diſtinction of things, into thoſe that are according to, above, and contrary to reaſon. 1. According to reaſon are ſuch propoſitions, whoſe truth we can diſcover by examining and tracing thoſe ideas we have from ſenſation and reflection; and by natural deduction find to be true or probable. 2. Above reaſon are ſuch propoſitions, whoſe truth or probability we cannot by reaſon derive from thoſe principles. 3. Contrary to reaſon are ſuch propoſitions, as are inconſiſtent with, or irreconcileable to, our clear and diſtinct ideas. Thus the exiſtence of one God is according to reaſon; the exiſtence of more than one God, contrary to reaſon; the reſurrection of the dead, above reaſon. Farther, as above reaſon may be taken in a double ſenſe, viz. either as ſignifying above probability, or above certainty; ſo in that large ſenſe wherein, contrary to reaſon, is, I ſuppoſe, ſometimes taken

Reaſon and faith not oppoſite.

§. 24. There is another uſe of the word reaſon, wherein it is oppoſed to faith; which though it be in itſelf a very improper

way of ſpeaking, yet common uſe has ſo authorized it, that it would be folly either to oppoſe or hope to remedy it: only I think it may not be amiſs to take notice, that however faith be oppoſed to reaſon, faith is nothing but a firm aſſent of the mind: which if it be regulated, as is our duty, cannot be afforded to any thing but upon good reaſon; and ſo cannot be oppoſite to it. He that believes, without having any reaſon for believing, may be in love with his own fancies; but neither ſeeks truth as he ought, nor pays the obedience due to his Maker, who would have him uſe thoſe diſcerning faculties he has given him, to keep him out of miſtake and errour. He that does not this to the beſt of his power, however he ſometimes lights on truth, is in the right but by chance; and I know not whether the luckineſs of the accident will excuſe the irregularity of his proceeding. This at leaſt is certain, that he muſt be accountable for whatever miſtakes he runs into: whereas he that makes uſe of the light and faculties God has given him, and ſeeks ſincerely to diſcover truth by thoſe helps and abilities he has, may have this ſatisfaction in doing his duty as a rational creature, that, though he ſhould miſs truth, he will not miſs the reward of it. For he governs his aſſent right, and places it as he ſhould, who, in any caſe or matter whatſoever, believes or diſbelieves, according as reaſon directs him. He that doth otherwiſe tranſgreſſes againſt his own light, and miſuſes thoſe faculties which were given him to no other end, but to ſearch and follow the clearer evidence and greater probability. But, ſince reaſon and faith are by ſome men oppoſed, we will ſo conſider them in the following chapter.

CHAP. XVIII.

Of Faith and Reaſon, and their diſtinct Provinces.

Neceſſary to know their boundaries.

§. 1. IT has been above ſhown, 1. That we are of neceſſity ignorant, and want knowledge of all ſorts, where we want

ideas. 2. That we are ignorant, and want rational knowledge, where we want proofs. 3. That we want certain knowledge and certainty, as far as we want clear and determined ſpecific ideas. 4. That we want probability to direct our aſſent in matters where we have neither knowledge of our own, nor teſtimony of other men, to bottom our reaſon upon.

From theſe things thus premiſed, I think we may come to lay down the meaſures and boundaries between faith and reaſon; the want whereof may poſſibly have been the cauſe, if not of great diſorders, yet at leaſt of great diſputes, and perhaps miſtakes in the world. For till it be reſolved, how far we are to be guided by reaſon, and how far by faith, we ſhall in vain diſpute, and endeavour to convince one another in matters of religion.

Faith and reaſon what as contradiſtinguiſhed.

§. 2. I find every ſect, as far as reaſon will help them, make uſe of it gladly: and where it fails them, they cry out, it is matter of faith, and above reaſon. And I do not ſee how they can argue, with any one, or ever convince a gainſayer who makes uſe of the ſame plea, without ſetting down ſtrict boundaries between faith and reaſon; which ought to be the firſt point eſtabliſhed in all queſtions, where faith has any thing to do.

Reaſon therefore here, as contradiſtinguiſhed to faith, I take to be the diſcovery of the certainty or probability of ſuch propoſitions or truths, which the mind arrives at by deduction made from ſuch ideas, which it has got by the uſe of its natural faculties; viz. by ſenſation or reflection.

Faith, on the other ſide, is the aſſent to any propoſition, not thus made out by the deductions of reaſon; but upon the credit of the propoſer, as coming from God, in ſome extraordinary way of communication. This way of diſcovering truths to men we call revelation.

No new ſimple idea can be conveyed by traditional revelation.

§. 3. Firſt then I ſay, that no man inſpired by God can by any revelation communicate to others any new ſimple ideas, which they had not before from ſenſation or *reflection*. For whatſoever impreſſions he

himſelf may have from the immediate hand of God, this revelation, if it be of new ſimple ideas, cannot be conveyed to another, either by words, or any other ſigns. Becauſe words, by their immediate operation on us, cauſe no other ideas, but of their natural ſounds: and it is by the cuſtom of uſing them for ſigns, that they excite and revive in our minds latent ideas; but yet only ſuch ideas as were there before. For words ſeen or heard, recal to our thoughts thoſe ideas only, which to us they have been wont to be ſigns of; but cannot introduce any perfectly new, and formerly unknown ſimple ideas. The ſame holds in all other ſigns, which cannot ſignify to us things, of which we have before never had any idea at all.

Thus whatever things were diſcovered to St. Paul, when he was rapt up into the third heaven, whatever new ideas his mind there received, all the deſcription he can make to others of that place, is only this, that there are ſuch things, "as eye hath not ſeen, nor ear "heard, nor hath it entered into the heart of man to "conceive." And ſuppoſing God ſhould diſcover to any one, ſupernaturally, a ſpecies of creatures inhabiting, for example, Jupiter or Saturn, (for that it is poſſible there may be ſuch, nobody can deny) which had ſix ſenſes; and imprint on his mind the ideas conveyed to theirs by that ſixth ſenſe; he could no more, by words, produce in the minds of other men thoſe ideas, imprinted by that ſixth ſenſe, than one of us could convey the idea of any colour by the ſounds of words into a man, who, having the other four ſenſes perfect, had always totally wanted the fifth of ſeeing. For our ſimple ideas then, which are the foundation and ſole matter of all our notions and knowledge, we muſt depend wholly on our reaſon, I mean our natural faculties; and can by no means receive them, or any of them, from traditional revelation; I ſay, traditional revelation, in diſtinction to original revelation. By the one, I mean that firſt impreſſion, which is made immediately by God, on the mind of any man, to which we cannot ſet any bounds; and by the other, thoſe impreſſions delivered over to

others.

others in words, and the ordinary ways of conveying our conceptions one to another.

Traditional revelation may make us know propoſitions knowable alſo by reaſon, but not with the ſame certainty that reaſon doth.

§. 4. Secondly, I ſay, that the ſame truths may be diſcovered, and conveyed down from revelation, which are diſcoverable to us by reaſon, and by thoſe ideas we naturally may have. So God might, by revelation, diſcover the truth of any propoſition in Euclid; as well as men, by the natural uſe of their faculties, come to make the diſcovery themſelves. In all things of this kind, there is little need or uſe of revelation, God having furniſhed us with natural and ſurer means to arrive at the knowledge of them. For whatſoever truth we come to the clear diſcovery of, from the knowledge and contemplation of our own ideas, will always be certainer to us, than thoſe which are conveyed to us by traditional revelation. For the knowledge we have, that this revelation came at firſt from God, can never be ſo ſure, as the knowledge we have from the clear and diſtinct perception of the agreement or diſagreement of our own ideas; v. g. if it were revealed ſome ages ſince, that the three angles of a triangle were equal to two right ones, I might aſſent to the truth of that propoſition, upon the credit of the tradition, that it was revealed; but that would never amount to ſo great a certainty, as the knowledge of it, upon the comparing and meaſuring my own ideas of two right angles, and the three angles of a triangle. The like holds in matter of fact, knowable by our ſenſes; v. g. the hiſtory of the deluge is conveyed to us by writings, which had their original from revelation: and yet nobody, I think, will ſay he has as certain and clear a knowledge of the flood, as Noah that ſaw it; or that he himſelf would have had, had he then been alive and ſeen it. For he has no greater aſſurance than that of his ſenſes, that it is writ in the book ſuppoſed writ by Moſes inſpired: but he has not ſo great an aſſurance that Moſes writ that book, as if he had ſeen Moſes write it. So that the aſſurance of its being a revelation is leſs ſtill than the aſſurance of his ſenſes.

§. 5.

Revelation cannot be admitted againſt the clear evidence of reaſon.

§. 5. In propoſitions then, whoſe certainty is built upon the clear perception of the agreement or diſagreement of our ideas, attained either by immediate intuition, as in ſelf-evident propoſitions, or by evident deductions of reaſon in demonſtrations, we need not the aſſiſtance of revelation, as neceſſary to gain our aſſent, and introduce them into our minds. Becauſe the natural ways of knowledge could ſettle them there, or had done it already; which is the greateſt aſſurance we can poſſibly have of any thing, unleſs where God immediately reveals it to us: and there too our aſſurance can be no greater, than our knowledge is, that it is a revelation from God. But yet nothing, I think, can, under that title, ſhake or over-rule plain knowledge; or rationally prevail with any man to admit it for true, in a direct contradiction to the clear evidence of his own underſtanding. For ſince no evidence of our faculties, by which we receive ſuch revelations, can exceed, if equal, the certainty of our intuitive knowledge, we can never receive for a truth any thing that is directly contrary to our clear and diſtinct knowledge: v. g. the ideas of one body, and one place, do ſo clearly agree, and the mind has ſo evident a perception of their agreement, that we can never aſſent to a propoſition, that affirms the ſame body to be in two diſtant places at once, however it ſhould pretend to the authority of a divine revelation: ſince the evidence, firſt, that we deceive not ourſelves, in aſcribing it to God; ſecondly, that we underſtand it right; can never be ſo great, as the evidence of our own intuitive knowledge, whereby we diſcern it impoſſible for the ſame body to be in two places at once. And therefore no propoſition can be received for divine revelation, or obtain the aſſent due to all ſuch, if it be contradictory to our clear intuitive knowledge. Becauſe this would be to ſubvert the principles and foundations of all knowledge, evidence, and aſſent whatſoever: and there would be left no difference between truth and falſhood, no meaſures of credible and incredible in the world, if doubtful propoſitions ſhall *take place* before ſelf-evident; and what we certainly know

know give way to what we may poſſibly be miſtaken in. In propoſitions therefore contrary to the clear perception of the agreement or diſagreement of any of our ideas, it will be in vain to urge them as matters of faith. They cannot move our aſſent, under that or any other title whatſoever. For faith can never convince us of any thing that contradicts our knowledge. Becauſe though faith be founded on the teſtimony of God (who cannot lye) revealing any propoſition to us; yet we cannot have an aſſurance of the truth of its being a divine revelation, greater than our own knowledge: ſince the whole ſtrength of the certainty depends upon our knowledge that God revealed it, which in this caſe, where the propoſition ſuppoſed revealed contradicts our knowledge or reaſon, will always have this objection hanging to it, viz. that we cannot tell how to conceive that to come from God, the bountiful Author of our being, which, if received for true, muſt overturn all the principles and foundations of knowledge he has given us; render all our faculties uſeleſs; wholly deſtroy the moſt excellent part of his workmanſhip, our underſtandings; and put a man in a condition, wherein he will have leſs light, leſs conduct than the beaſt that periſheth. For if the mind of man can never have a clearer (and perhaps not ſo clear) evidence of any thing to be a divine revelation, as it has of the principles of its own reaſon, it can never have a ground to quit the clear evidence of its reaſon, to give a place to a propoſition, whoſe revelation has not a greater evidence than thoſe principles have.

Traditional revelation much leſs.

§. 6. Thus far a man has uſe of reaſon, and ought to hearken to it, even in immediate and original revelation, where it is ſuppoſed to be made to himſelf: but to all thoſe who pretend not to immediate revelation, but are required to pay obedience, and to receive the truths revealed to others, which by the tradition of writings, or word of mouth, are conveyed down to them; reaſon has a great deal more to do, and is that only which can induce us to receive them. For matter of faith being only divine revelation, and nothing elſe; faith, as we uſe the word,

(called

(called commonly divine faith) has to do with no propoſitions, but thoſe which are ſuppoſed to be divinely revealed. So that I do not ſee how thoſe, who make revelation alone the ſole object of faith, can ſay, that it is a matter of faith, and not of reaſon, to believe that ſuch or ſuch a propoſition, to be found in ſuch or ſuch a book, is of divine inſpiration; unleſs it be revealed, that that propoſition, or all in that book, was communicated by divine inſpiration. Without ſuch a revelation, the believing, or not believing that propoſition or book to be of divine authority, can never be matter of faith, but matter of reaſon; and ſuch as I muſt come to an aſſent to, only by the uſe of my reaſon, which can never require or enable me to believe that which is contrary to itſelf: it being impoſſible for reaſon ever to procure any aſſent to that, which to itſelf appears unreaſonable.

In all things therefore, where we have clear evidence from our ideas, and thoſe principles of knowledge I have above-mentioned, reaſon is the proper judge; and revelation, though it may in conſenting with it confirm its dictates, yet cannot in ſuch caſes invalidate its decrees: nor can we be obliged, where we have the clear and evident ſentence of reaſon, to quit it for the contrary opinion, under a pretence that it is matter of faith; which can have no authority againſt the plain and clear dictates of reaſon.

Things above reaſon.

§. 7. But, thirdly, there being many things, wherein we have very imperfect notions, or none at all; and other things, of whoſe paſt, preſent, or future exiſtence, by the natural uſe of our faculties, we can have no knowledge at all; theſe, as being beyond the diſcovery of our natural faculties, and above reaſon, are, when revealed, the proper matter of faith. Thus, that part of the angels rebelled againſt God, and thereby loſt their firſt happy ſtate; and that the dead ſhall riſe, and live again: theſe, and the like, being beyond the diſcovery of reaſon, are purely matters of faith; with which reaſon has directly nothing to do.

§. 8.

§. 8. But ſince God in giving us the light of reaſon has not thereby tied up his own hands from affording us, when he thinks fit, the light of revelation in any of thoſe matters, wherein our natural faculties are able to give a probable determination; revelation, where God has been pleaſed to give it, muſt carry it againſt the probable conjectures of reaſon. Becauſe the mind not being certain of the truth of that it does not evidently know, but only yielding to the probability that appears in it, is bound to give up its aſſent to ſuch a teſtimony; which, it is ſatisfied, comes from one who cannot err, and will not deceive. But yet it ſtill belongs to reaſon to judge of the truth of its being a revelation, and of the ſignification of the words wherein it is delivered. Indeed, if any thing ſhall be thought revelation, which is contrary to the plain principles of reaſon, and the evident knowledge the mind has of its own clear and diſtinct ideas; there reaſon muſt be hearkened to, as to a matter within its province: ſince a man can never have ſo certain a knowledge, that a propoſition which contradicts the clear principles and evidence of his own knowledge, was divinely revealed, or that he underſtands the words rightly wherein it is delivered; as he has, that the contrary is true: and ſo is bound to conſider and judge of it as a matter of reaſon, and not ſwallow it, without examination, as a matter of faith.

Nor not contrary to reaſon, if revealed, are matter of faith.

§. 9. Firſt, whatever propoſition is revealed, of whoſe truth our mind, by its natural faculties and notions, cannot judge; that is purely matter of faith, and above reaſon.

Revelation in matters where reaſon cannot judge, or but probably, ought to be hearkened to.

Secondly, all propoſitions whereof the mind, by the uſe of its natural faculties, can come to determine and judge from naturally acquired ideas, are matter of reaſon; with this difference ſtill, that in thoſe concerning which it has but an uncertain evidence, and ſo is perſuaded of their truth only upon probable grounds, which ſtill admit a poſſibility of the contrary to be true, without doing violence to

the certain evidence of its own knowledge, and overturning the principles of its own reaſon; in ſuch probable propoſitions, I ſay, an evident revelation ought to determine our aſſent even againſt probability. For where the principles of reaſon have not evidenced a propoſition to be certainly true or falſe, there clear revelation, as another principle of truth, and ground of aſſent, may determine; and ſo it may be matter of faith, and be alſo above reaſon. Becauſe reaſon, in that particular matter, being able to reach no higher than probability, faith gave the determination where reaſon came ſhort; and revelation diſcovered on which ſide the truth lay.

In matters where reaſon can afford certain knowledge, that is to be hearkened to.

§. 10. Thus far the dominion of faith reaches, and that without any violence or hindrance to reaſon; which is not injured or diſturbed, but aſſiſted and improved, by new diſcoveries of truth coming from the eternal fountain of all knowledge. Whatever God hath revealed is certainly true; no doubt can be made of it. This is the proper object of faith: but whether it be a divine revelation or no, reaſon muſt judge; which can never permit the mind to reject a greater evidence to embrace what is leſs evident, nor allow it to entertain probability in oppoſition to knowledge and certainty. There can be no evidence, that any traditional revelation is of divine original, in the words we receive it, and in the ſenſe we underſtand it, ſo clear and ſo certain, as that of the principles of reaſon: and therefore nothing that is contrary to, and inconſiſtent with, the clear and ſelf-evident dictates of reaſon, has a right to be urged or aſſented to as a matter of faith, wherein reaſon hath nothing to do. Whatſoever is divine revelation ought to over-rule all our opinions, prejudices, and intereſt, and hath a right to be received with full aſſent. Such a ſubmiſſion as this, of our reaſon to faith, takes not away the land-marks of knowledge: this ſhakes not the foundations of reaſon, but leaves us that uſe of our faculties, for which they were given us.

If the boundaries be not

§. 11. If the provinces of faith and reaſon are not kept diſtinct by theſe boundaries,

ries, there will, in matters of religion, be no room for reaſon at all; and thoſe extravagant opinions and ceremonies that are to be found in the ſeveral religions of the world, will not deſerve to be blamed. For, to this crying up of faith, in oppoſition to reaſon, we may, I think, in good meaſure aſcribe thoſe abſurdities that fill almoſt all the religions which poſſeſs and divide mankind. For men having been principled with an opinion, that they muſt not conſult reaſon in the things of religion, however apparently contradictory to common ſenſe, and the very principles of all their knowledge; have let looſe their fancies and natural ſuperſtition; and have been by them led into ſo ſtrange opinions, and extravagant practices in religion, that a conſiderate man cannot but ſtand amazed at their follies, and judge them ſo far from being acceptable to the great and wiſe God, that he cannot avoid thinking them ridiculous, and offenſive to a ſober good man. So that in effect religion, which ſhould moſt diſtinguiſh us from beaſts, and ought moſt peculiarly to elevate us, as rational creatures, above brutes, is that wherein men often appear moſt irrational and more ſenſeleſs than beaſts themſelves. "Credo, quia impoſſibile eſt;" I believe, becauſe it is impoſſible, might in a good man paſs for a ſally of zeal; but would prove a very ill rule for men to chooſe their opinions or religion by.

ſet beewten faith and reaſon, no enthuſiaſm or extravagancy in religion can be contradicted.

CHAP. XIX.

Of Enthuſiaſm.

§. 1. HE that would ſeriouſly ſet upon the ſearch of truth, ought in the firſt place to prepare his mind with a love of it. For he that loves it not, will not take much pains to get it, nor be much concerned when he miſſes it. There is nobody in the commonwealth of learning, who

Love of truth neceſſary.

who does not profeſs himſelf a lover of truth; and there is not a rational creature that would not take it amiſs to be thought otherwiſe of. And yet for all this, one may truly ſay, that there are very few lovers of truth for truth-ſake, even amongſt thoſe who perſuade themſelves that they are ſo. How a man may know whether he be ſo in earneſt, is worth inquiry: and I think there is one unerring mark of it, viz. the not entertaining any propoſition with greater aſſurance, than the proofs it is built upon will warrant. Whoever goes beyond this meaſure of aſſent, it is plain, receives not truth in the love of it; loves not truth for truth-ſake, but for ſome other bye-end. For the evidence that any propoſition is true (except ſuch as are ſelf-evident) lying only in the proofs a man has of it, whatſoever degrees of aſſent he affords it beyond the degrees of that evidence, it is plain that all the ſurpluſage of aſſurance is owing to to ſome other affection, and not to the love of truth: it being as impoſſible, that the love of truth ſhould carry my aſſent above the evidence there is to me that it is true, as that the love of truth ſhould make me aſſent to any propoſition for the ſake of that evidence, which it has not, that it is true; which is in effect to love it as a truth, becauſe it is poſſible or probable that it may not be true. In any truth that gets not poſſeſſion of our minds by the irreſiſtible light of ſelf-evidence, or by the force of demonſtration, the arguments that gain it aſſent are the vouchers and gage of its probability to us; and we can receive it for no other, than ſuch as they deliver it to our underſtandings. Whatſoever credit or authority we give to any propoſition, more than it receives from the principles and proofs it ſupports itſelf upon, is owing to our inclinations that way, and is ſo far a derogation from the love of truth as ſuch: which, as it can receive no evidence from our paſſions or intereſts, ſo it ſhould receive no tincture from them.

A forwardneſs to dictate, from whence.

§. 2. The aſſuming an authority of dictating to others, and a forwardneſs to preſcribe to their opinions, is a conſtant concomitant of this biaſs and corruption of our judgments. For how almoſt can it be otherwiſe, but that

that he ſhould be ready to impoſe on another's belief, who has already impoſed on his own? Who can reaſonably expect arguments and conviction from him, in dealing with others, whoſe underſtanding is not accuſtomed to them in his dealing with himſelf? Who does violence to his own faculties, tyrannizes over his own mind, and uſurps the prerogative that belongs to truth alone, which is to command aſſent by only its own authority, i. e. by and in proportion to that evidence which it carries with it.

Force of enthuſiaſm.

§. 3. Upon this occaſion I ſhall take the liberty to conſider a third ground of aſſent, which with ſome men has the ſame authority, and is as confidently relied on as either faith or reaſon; I mean enthuſiaſm: which, laying by reaſon, would ſet up revelation without it. Whereby in effect it takes away both reaſon and revelation, and ſubſtitutes in the room of it the ungrounded fancies of a man's own brain, and aſſumes them for a foundation both of opinion and conduct.

Reaſon and revelation.

§. 4. Reaſon is natural revelation, whereby the eternal father of light, and fountain of all knowledge, communicates to mankind that portion of truth which he has laid within the reach of their natural faculties: revelation is natural reaſon enlarged by a new ſet of diſcoveries communicated by God immediately, which reaſon vouches the truth of, by the teſtimony and proofs it gives, that they come from God. So that he that takes away reaſon, to make way for revelation, puts out the light of both, and does much-what the ſame, as if he would perſuade a man to put out his eyes, the better to receive the remote light of an inviſible ſtar by a teleſcope.

Riſe of enthuſiaſm.

§. 5. Immediate revelation being a much eaſier way for men to eſtabliſh their opinions, and regulate their conduct, than the tedious and not always ſucceſsful labour of ſtrict reaſoning, it is no wonder that ſome have been very apt to pretend to revelation, and to perſuade themſelves that they are under the peculiar guidance of heaven in their actions and opinions, eſpecially in thoſe of them which

they cannot account for by the ordinary methods of knowledge, and principles of reaſon. Hence we ſee that in all ages, men, in whom melancholy has mixed with devotion, or whoſe conceit of themſelves has raiſed them into an opinion of a greater familiarity with God, and a nearer admittance to his favour than is afforded to others, have often flattered themſelves with a perſuaſion of an immediate intercourſe with the Deity, and frequent communications from the Divine Spirit. God, I own, cannot be denied to be able to enlighten the underſtanding by a ray darted into the mind immediately from the fountain of light; this they underſtand he has promiſed to do, and who then has ſo good a title to expect it as thoſe who are his peculiar people, choſen by him, and depending on him?

Enthuſiaſm. §. 6. Their minds being thus prepared, whatever groundleſs opinion comes to ſettle itſelf ſtrongly upon their fancies, is an illumination from the ſpirit of God, and preſently of divine authority: and whatſoever odd action they find in themſelves a ſtrong inclination to do, that impulſe is concluded to be a call or direction from heaven, and muſt be obeyed; it is a commiſſion from above, and they cannot err in executing it.

§. 7. This I take to be properly enthuſiaſm, which, though founded neither on reaſon nor divine revelation, but riſing from the conceits of a warmed or over-weening brain, works yet, where it once gets footing, more powerfully on the perſuaſions and actions of men, than either of thoſe two, or both together: men being moſt forwardly obedient to the impulſes they receive from themſelves; and the whole man is ſure to act more vigorouſly, where the whole man is carried by a natural motion. For ſtrong conceit, like a new principle, carries all eaſily with it, when got above common ſenſe, and freed from all reſtraint of reaſon, and check of reflection, it is heightened into a divine authority, in concurrence with our own temper and inclination.

Enthuſiaſm miſtaken for ſeeing and feeling. §. 8. Though the odd opinions and extravagant actions enthuſiaſm has run men into, were enough to warn them againſt this wrong principle, ſo apt to miſguide them

them both in their belief and conduct; yet the love of ſomething extraordinary, the eaſe and glory it is to be inſpired, and be above the common and natural ways of knowledge, ſo flatters many men's lazineſs, ignorance, and vanity, that when once they are got into this way of immediate revelation, of illumination without ſearch, and of certainty without proof, and without examination; it is a hard matter to get them out of it. Reaſon is loſt upon them, they are above it: they ſee the light infuſed into their underſtandings, and cannot be miſtaken; it is clear and viſible there, like the light of bright ſunſhine; ſhows itſelf, and needs no other proof but its own evidence: they feel the hand of God moving them within, and the impulſes of the ſpirit, and cannot be miſtaken in what they feel. Thus they ſupport themſelves, and are ſure reaſon hath nothing to do with what they ſee and feel in themſelves: what they have a ſenſible experience of admits no doubt, needs no probation. Would he not be ridiculous, who ſhould require to have it proved to him that the light ſhines, and that he ſees it? It is its own proof, and can have no other. When the ſpirit brings light into our minds, it diſpels darkneſs. We ſee it, as we do that of the ſun at noon, and need not the twilight of reaſon to ſhow it us. This light from heaven is ſtrong, clear, and pure, carries its own demonſtration with it; and we may as naturally take a glow-worm to aſſiſt us to diſcover the ſun, as to examine the celeſtial ray by our dim candle, reaſon.

Enthuſiaſm how to be diſcovered.

§. 9. This is the way of talking of theſe men: they are ſure, becauſe they are ſure: and their perſuaſions are right, becauſe they are ſtrong in them. For, when what they ſay is ſtripped of the metaphor of ſeeing and feeling, this is all it amounts to: and yet theſe ſimilies ſo impoſe on them, that they ſerve them for certainty in themſelves, and demonſtration to others.

§. 10. But to examine a little ſoberly this internal light, and this feeling on which they build ſo much. Theſe men have, they ſay, clear light, and they ſee; they have awakened ſenſe, and they feel; this cannot,

they are ſure, be diſputed them. For when a man ſays he ſees or feels, nobody can deny it him that he does ſo. But here let me aſk: this ſeeing, is it the perception of the truth of the propoſition, or of this, that it is a revelation from God? This feeling, is it a perception of an inclination or fancy to do ſomething, or of the ſpirit of God moving that inclination? Theſe are two very different perceptions, and muſt be carefully diſtinguiſhed, if we would not impoſe upon ourſelves. I may perceive the truth of a propoſition, and yet not perceive that it is an immediate revelation from God. I may perceive the truth of a propoſition in Euclid, without its being or my perceiving it to be a revelation: nay, I may perceive I came not by this knowledge in a natural way, and ſo may conclude it revealed, without perceiving that it is a revelation from God; becauſe there be ſpirits, which, without being divinely commiſſioned, may excite thoſe ideas in me, and lay them in ſuch order before my mind, that I may perceive their connexion. So that the knowledge of any propoſition coming into my mind, I know not how, is not a perception that it is from God. Much leſs is a ſtrong perſuaſion, that it is true, a perception that it is from God, or ſo much as true. But however it be called light and ſeeing, I ſuppoſe it is at moſt but belief and aſſurance: and the propoſition taken for a revelation, is not ſuch as they know to be true, but take to be true. For where a propoſition is known to be true, revelation is needleſs: and it is hard to conceive how there can be a revelation to any one of what he knows already. If therefore it be a propoſition which they are perſuaded, but do not know, to be true, whatever they may call it, it is not ſeeing, but believing. For theſe are two ways, whereby truth comes into the mind, wholly diſtinct, ſo that one is not the other. What I ſee I know to be ſo by the evidence of the thing itſelf: what I believe I take to be ſo upon the teſtimony of another: but this teſtimony I muſt know to be given, or elſe what ground have I of believing? I muſt ſee that it is God that reveals this to me, or elſe I ſee nothing. The queſtion then here is, how do I know *that* God is the revealer of this to me; that this impreſ-

ſion

ſion is made upon my mind by his Holy Spirit, and that therefore I ought to obey it? If I know not this, how great ſoever the aſſurance is that I am poſſeſſed with, it is groundleſs; whatever light I pretend to, it is but enthuſiaſm. For whether the propoſition ſuppoſed to be revealed, be in itſelf evidently true, or viſibly probable, or by the natural ways of knowledge uncertain, the propoſition that muſt be well grounded, and manifeſted to be true, is this, that God is the revealer of it, and that what I take to be a revelation is certainly put into my mind by him, and is not an illuſion dropped in by ſome other ſpirit, or raiſed by my own fancy. For if I miſtake not, theſe men receive it for true, becauſe they preſume God revealed it. Does it not then ſtand them upon, to examine on what grounds they preſume it to be a revelation from God? or elſe all their confidence is mere preſumption: and this light, they are ſo dazzled with, is nothing but an ignis fatuus that leads them conſtantly round in this circle; it is a revelation, becauſe they firmly believe it, and they believe it, becauſe it is a revelation.

Enthuſiaſm fails of evidence, that the propoſition is from God.

§. 11. In all that is of divine revelation, there is need of no other proof but that it is an inſpiration from God: for he can neither deceive nor be deceived. But how ſhall it be known that any propoſition in our minds is a truth infuſed by God; a truth that is revealed to us by him, which he declares to us, and therefore we ought to believe? Here it is that enthuſiaſm fails of the evidence it pretends to. For men thus poſſeſſed boaſt of a light whereby they ſay they are enlightened, and brought into the knowledge of this or that truth. But if they know it to be a truth, they muſt know it to be ſo, either by its own ſelf-evidence to natural reaſon, or by the rational proofs that make it out to be ſo. If they ſee and know it to be a truth, either of theſe two ways, they in vain ſuppoſe it to be a revelation. For they know it to be true the ſame way, that any other man naturally may know that it is ſo without the help of revelation. For thus all the truths, of what kind ſoever, that men uninſpired are enlightened with,

came into their minds, and are eſtabliſhed there. If they ſay they know it to be true, becauſe it is a revelation from God, the reaſon is good: but then it will be demanded how they know it to be a revelation from God. If they ſay, by the light it brings with it, which ſhines bright in their minds, and they cannot reſiſt: I beſeech them to conſider whether this be any more than what we have taken notice of already, viz. that it is a revelation, becauſe they ſtrongly believe it to be true. For all the light they ſpeak of is but a ſtrong, though ungrounded, perſuaſion of their own minds, that it is a truth. For rational grounds from proofs that it is a truth, they muſt acknowledge to have none; for then it is not received as a revelation, but upon the ordinary grounds that other truths are received: and if they believe it to be true, becauſe it is a revelation, and have no other reaſon for its being a revelation, but becauſe they are fully perſuaded without any other reaſon that it is true; they believe it to be a revelation, only becauſe they ſtrongly believe it to be a revelation; which is a very unſafe ground to proceed on, either in our tenets or actions. And what readier way can there be to run ourſelves into the moſt extravagant errours and miſcarriages, than thus to ſet up fancy for our ſupreme and ſole guide, and to believe any propoſition to be true, any action to be right, only becauſe we believe it to be ſo? The ſtrength of our perſuaſions is no evidence at all of their own rectitude: crooked things may be as ſtiff and inflexible as ſtraight: and men may be as poſitive and peremptory in errour as in truth. How come elſe the untractable zealots in different and oppoſite parties? For if the light, which every one thinks he has in his mind, which in this caſe is nothing but the ſtrength of his own perſuaſion, be an evidence that it is from God, contrary opinions have the ſame title to inſpirations; and God will be not only the father of lights, but of oppoſite and contradictory lights, leading men contrary ways; and contradictory propoſitions will be divine truths, if an ungrounded ſtrength of aſſurance be an evidence, that any propoſition is a divine revelation.

§. 12.

§. 12. This cannot be otherwiſe, whilſt firmneſs of perſuaſion is made the cauſe of believing, and confidence of being in the right is made an argument of truth. St. Paul himſelf believed he did well, and that he had a call to it when he perſecuted the Chriſtians, whom he confidently thought in the wrong: but yet it was he, and not they, who were miſtaken. Good men are men ſtill, liable to miſtakes; and are ſometimes warmly engaged in errours, which they take for divine truths, ſhining in their minds with the cleareſt light.

Firmneſs of perſuaſion no proof that any propoſition is from God.

§. 13. Light, true light, in the mind is, or can be nothing elſe but the evidence of the truth of any propoſition; and if it be not a ſelf-evident propoſition, all the light it has, or can have, is from the clearneſs and validity of thoſe proofs, upon which it is received. To talk of any other light in the underſtanding is to put ourſelves in the dark, or in the power of the Prince of darkneſs, and by our own conſent to give ourſelves up to deluſion to believe a lie. For if ſtrength of perſuaſion be the light, which muſt guide us; I aſk how ſhall any one diſtinguiſh between the deluſions of Satan, and the inſpirations of the Holy Ghoſt? He can transform himſelf into an angel of light. And they who are led by this ſon of the morning, are as fully ſatisfied of the illumination, i. e. are as ſtrongly perſuaded, that they are enlightened by the ſpirit of God, as any one who is ſo: they acquieſce and rejoice in it, are acted by it: and nobody can be more ſure, nor more in the right (if their own ſtrong belief may be judge) than they.

Light in the mind, what.

§. 14. He therefore that will not give himſelf up to all the extravagancies of deluſion and errour, muſt bring this guide of his light within to the trial. God, when he makes the prophet, does not unmake the man. He leaves all his faculties in the natural ſtate, to enable him to judge of his inſpirations, whether they be of divine original or no. When he illuminates the mind with ſupernatural light, he does not extinguiſh that which is

Revelation muſt be judged of by reaſon.

natural. If he would have us aſſent to the truth of any propoſition, he either evidences that truth by the uſual methods of natural reaſon, or elſe makes it known to be a truth which he would have us aſſent to, by his authority; and convinces us that it is from him, by ſome marks which reaſon cannot be miſtaken in. Reaſon muſt be our laſt judge and guide in every thing. I do not mean that we muſt conſult reaſon, and examine whether a propoſition revealed from God can be made out by natural principles, and if it cannot, that then we may reject it: but conſult it we muſt, and by it examine, whether it be a revelation from God or no. And if reaſon finds it to be revealed from God, reaſon then declares for it, as much as for any other truth, and makes it one of her dictates. Every conceit that thoroughly warms our fancies muſt paſs for an inſpiration, if there be nothing but the ſtrength of our perſuaſions, whereby to judge of our perſuaſions: if reaſon muſt not examine their truth by ſomething extrinſecal to the perſuaſions themſelves, inſpirations and deluſions, truth and falſhood, will have the ſame meaſure, and will not be poſſible to be diſtinguiſhed.

Belief no proof of revelation.

§. 15. If this internal light, or any propoſition which under that title we take for inſpired, be conformable to the principles of reaſon, or to the word of God, which is atteſted revelation, reaſon warrants it, and we may ſafely receive it for true, and be guided by it in our belief and actions: if it receive no teſtimony nor evidence from either of theſe rules, we cannot take it for a revelation, or ſo much as for true, till we have ſome other mark that it is a revelation, beſides our believing that it is ſo. Thus we ſee the holy men of old, who had revelations from God, had ſomething elſe beſides that internal light of aſſurance in their own minds, to teſtify to them that it was from God. They were not left to their own perſuaſions alone, that thoſe perſuaſions were from God; but had outward ſigns to convince them of the author of thoſe revelations. And when they were to convince others, they had a power given them to juſtify the truth of their commiſſion from heaven, and by

viſible ſigns to aſſert the divine authority of a meſſage they were ſent with. Moſes ſaw the buſh burn without being conſumed, and heard a voice out of it. This was ſomething beſides finding an impulſe upon his mind to go to Pharaoh, that he might bring his brethren out of Egypt: and yet he thought not this enough to authorize him to go with that meſſage, till God, by another miracle of his rod turned into a ſerpent, had aſſured him of a power to teſtify his miſſion, by the ſame miracle repeated before them, whom he was ſent to. Gideon was ſent by an angel to deliver Iſrael from the Midianites, and yet he deſired a ſign to convince him that this commiſſion was from God. Theſe, and ſeveral the like inſtances to be found among the prophets of old, are enough to ſhow that they thought not an inward ſeeing or perſuaſion of their own minds, without any other proof, a ſufficient evidence that it was from God; though the ſcripture does not every where mention their demanding or having ſuch proofs.

§. 16. In what I have ſaid I am far from denying, that God can, or doth ſometimes enlighten men's minds in the apprehending of certain truths, or excite them to good actions by the immediate influence and aſſiſtance of the holy ſpirit, without any extraordinary ſigns accompanying it. But in ſuch caſes too we have reaſon and ſcripture, unerring rules to know whether it be from God or no. Where the truth embraced is conſonant to the revelation in the written word of God, or the action conformable to the dictates of right reaſon or holy writ, we may be aſſured that we run no riſk in entertaining it as ſuch; becauſe though perhaps it be not an immediate revelation from God, extraordinarily operating on our minds, yet we are ſure it is warranted by that revelation which he has given us of truth. But it is not the ſtrength of our private perſuaſion within ourſelves, that can warrant it to be a light or motion from heaven; nothing can do that but the written word of God without us, or that ſtandard of reaſon which is common to us with all men. Where reaſon or ſcripture is expreſs for any opinion or action, we may receive it as of divine authority; but it is not the ſtrength of our

own

own perſuaſions which can by itſelf give it that ſtamp. The bent of our own minds may favour it as much as we pleaſe; that may ſhow it to be a fondling of our own, but will by no means prove it to be an offspring of heaven, and of divine original.

CHAP. XX.

Of wrong Aſſent, or Errour.

Cauſes of errour.

§. 1. KNOWLEDGE being to be had only of viſible and certain truth, errour is not a fault of our knowledge, but a miſtake of our judgment, giving aſſent to that which is not true.

But if aſſent be grounded on likelihood, if the proper object and motive of our aſſent be probability, and that probability conſiſts in what is laid down in the foregoing chapters, it will be demanded how men come to give their aſſents contrary to probability. For there is nothing more common than contrariety of opinions; nothing more obvious than that one man wholly diſbelieves, what another only doubts of, and a third ſtedfaſtly believes, and firmly adheres to. The reaſons whereof, though they may be very various, yet, I ſuppoſe, may all be reduced to theſe four:

1. Want of proofs.
2. Want of ability to uſe them.
3. Want of will to uſe them.
4. Wrong meaſures of probability.

1. Want of proofs.

§. 2. Firſt, by want of proofs, I do not mean only the want of thoſe proofs which are no where extant, and ſo are no where to be had; but the want even of thoſe proofs which are in being, or might be procured. And thus men want proofs who have not the convenience or opportunity to make experiments and obſervations themſelves tending to the proof of any propoſition; nor likewiſe the convenience to inquire into and collect the teſtimonies of

of others: and in this ſtate are the greateſt part of mankind, who are given up to labour, and enſlaved to the neceſſity of their mean condition, whoſe lives are worn out only in the proviſions for living. Theſe men's opportunities of knowledge and inquiry are commonly as narrow as their fortunes; and their underſtandings are but little inſtructed, when all their whole time and pains is laid out to ſtill the croaking of their own bellies, or the cries of their children. It is not to be expected that a man, who drudges on all his life in a laborious trade, ſhould be more knowing in the variety of things done in the world, than a pack-horſe, who is driven conſtantly forwards and backwards in a narrow lane, and dirty road, only to market, ſhould be ſkilled in the geography of the country. Nor is it at all more poſſible, that he who wants leiſure, books, and languages, and the opportunity of converſing with variety of men, ſhould be in a condition to collect thoſe teſtimonies and obſervations which are in being, and are neceſſary to make out many, nay moſt of the propoſitions that, in the ſocieties of men, are judged of the greateſt moment; or to find out grounds of aſſurance ſo great as the belief of the points he would build on them is thought neceſſary. So that a great part of mankind are, by the natural and unalterable ſtate of things in this world, and the conſtitution of human affairs, unavoidably given over to invincible ignorance of thoſe proofs on which others build, and which are neceſſary to eſtabliſh thoſe opinions: the greateſt part of men having much to do to get the means of living, are not in a condition to look after thoſe of learned and laborious inquiries.

Obj. What ſhall become of thoſe who want them, anſwered.

§. 3. What ſhall we ſay then? Are the greateſt part of mankind, by the neceſſity of their condition, ſubjected to unavoidable ignorance in thoſe things which are of greateſt importance to them? (for of theſe it is obvious to inquire.) Have the bulk of mankind no other guide but accident, and blind chance, to conduct them to their happineſs or miſery? Are the current opinions, and licenſed guides of every country, ſufficient

evidence

evidence and ſecurity to every man to venture his great concernments on; nay, his everlaſting happineſs or miſery? Or can thoſe be the certain and infallible oracles and ſtandards of truth, which teach one thing in Chriſtendom, and another in Turky? Or ſhall a poor countryman be eternally happy for having the chance to be born in Italy; or a day-labourer be unavoidably loſt, becauſe he had the ill luck to be born in England? How ready ſome men may be to ſay ſome of theſe things, I will not here examine: but this I am ſure, that men muſt allow one or other of theſe to be true, (let them chooſe which they pleaſe) or elſe grant, that God has furniſhed men with faculties ſufficient to direct them in the way they ſhould take, if they will but ſeriouſly employ them that way, when their ordinary vocations allow them the leiſure. No man is ſo wholly taken up with the attendance on the means of living, as to have no ſpare time at all to think of his ſoul, and inform himſelf in matters of religion. Were men as intent upon this, as they are on things of lower concernment, there are none ſo enſlaved to the neceſſities of life, who might not find many vacancies that might be huſbanded to this advantage of their knowledge.

People hindered from inquiry.

§. 4. Beſides thoſe, whoſe improvements and informations are ſtraitened by the narrowneſs of their fortunes, there are others whoſe largeneſs of fortune would plentifully enough ſupply books and other requiſites for clearing of doubts, and diſcovering of truth: but they are cooped in cloſe, by the laws of their countries, and the ſtrict guards of thoſe whoſe intereſt it is to keep them ignorant, leſt, knowing more, they ſhould believe the leſs in them. Theſe are as far, nay farther from the liberty and opportunities of a fair inquiry, than theſe poor and wretched labourers we before ſpoke of. And, however they may ſeem high and great, are confined to narrowneſs of thought, and enſlaved in that which ſhould be the freeſt part of man, their underſtandings. This is generally the caſe of all thoſe who live in places where care is taken to propagate truth without knowledge; where men are forced, at a venture, to be of the religion

of

of the country; and muſt therefore ſwallow down opinions, as ſilly people do empirics pills, without knowing what they are made of, or how they will work, and having nothing to do but believe that they will do the cure: but in this are much more miſerable than they, in that they are not at liberty to refuſe ſwallowing what perhaps they had rather let alone; or to chooſe the phyſician, to whoſe conduct they would truſt themſelves.

2. Want of ſkill to uſe them.

§. 5. Secondly, thoſe who want ſkill to uſe thoſe evidences they have of probabilities; who cannot carry a train of conſequences in their heads; nor weigh exactly the preponderancy of contrary proofs and teſtimonies, making every circumſtance its due allowance; may be eaſily miſled to aſſent to poſitions that are not probable. There are ſome men of one, ſome but of two ſyllogiſms, and no more; and others that can but advance one ſtep farther. Theſe cannot always diſcern that ſide on which the ſtrongeſt proofs lie; cannot conſtantly follow that which in itſelf is the more probable opinion. Now that there is ſuch a difference between men, in reſpect of their underſtandings, I think nobody, who has had any converſation with his neighbours, will queſtion: though he never was at Weſtminſter-hall, or the Exchange, on the one hand; or at Alms-houſes, or Bedlam, on the other. Which great difference in men's intellectuals, whether it riſes from any defect in the organs of the body, particularly adapted to thinking; or in the dulneſs or untractableneſs of thoſe faculties for want of uſe; or, as ſome think, in the natural differences of men's ſouls themſelves; or ſome, or all of theſe together: it matters not here to examine: only this is evident, that there is a difference of degrees in men's underſtandings, apprehenſions, and reaſonings, to ſo great a latitude, that one may, without doing injury to mankind, affirm, that there is a greater diſtance between ſome men and others, in this reſpect, than between ſome men and ſome beaſts. But how this comes about, is a ſpeculation, though of great conſequence, yet not neceſſary to our preſent purpoſe.

§. 6.

3. Want of will to uſe them.

§. 6. Thirdly, there are another ſort of people that want proofs, not becauſe they are out of their reach, but becauſe they will not uſe them: who, though they have riches and leiſure enough, and want neither parts nor other helps, are yet never the better for them. Their hot purſuit of pleaſure, or conſtant drudgery in buſineſs, engages ſome men's thoughts elſewhere: lazineſs and oſcitancy in general, or a particular averſion for books, ſtudy and meditation, keep others from any ſerious thoughts at all: and ſome out of fear, that an impartial inquiry would not favour thoſe opinions which beſt ſuit their prejudices, lives, and deſigns, content themſelves, without examination, to take upon truſt what they find convenient and in faſhion. Thus moſt men, even of thoſe that might do otherwiſe, paſs their lives without an acquaintance with, much leſs a rational aſſent to, probabilities they are concerned to know, though they lie ſo much within their view, that to be convinced of them they need but turn their eyes that way. We know ſome men will not read a letter which is ſuppoſed to bring ill news; and many men forbear to caſt up their accounts, or ſo much as think upon their eſtates, who have reaſon to fear their affairs are in no very good poſture. How men, whoſe plentiful fortunes allow them leiſure to improve their underſtandings, can ſatisfy themſelves with a lazy ignorance, I cannot tell: but methinks they have a low opinion of their ſouls, who lay out all their incomes in proviſions for the body, and employ none of it to procure the means and helps of knowledge; who take great care to appear always in a neat and ſplendid outſide, and would think themſelves miſerable in coarſe cloaths, or a patched coat, and yet contentedly ſuffer their minds to appear abroad in a pie-bald livery of coarſe patches, and borrowed ſhreds, ſuch as it has pleaſed chance, or their country-taylor (I mean the common opinion of thoſe they have converſed with) to clothe them in. I will not here mention how unreaſonable this is for men that ever think of a future ſtate, and their concernment in it, which no rational man can avoid to do ſometimes; nor ſhall I take notice what a

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ſhame and confuſion it is, to the greateſt contemners of knowledge, to be found ignorant in things they are concerned to know. But this at leaſt is worth the conſideration of thoſe who call themſelves gentlemen, that however they may think credit, reſpect, power and authority, the concomitants of their birth and fortune, yet they will find all theſe ſtill carried away from them, by men of lower condition, who ſurpaſs them in knowledge. They who are blind will always be led by thoſe that ſee, or elſe fall into the ditch: and he is certainly the moſt ſubjected, the moſt enſlaved, who is ſo in his underſtanding. In the foregoing inſtances, ſome of the cauſes have been ſhown of wrong aſſent, and how it comes to paſs, that probable doctrines are not always received with an aſſent proportionable to the reaſons which are to be had for their probability: but hitherto we have conſidered only ſuch probabilities, whoſe proofs do exiſt, but do not appear to him who embraces the errour.

4. Wrong meaſures of probability; whereof,

§. 7. Fourthly, there remains yet the laſt ſort, who, even where the real probabilities appear, and are plainly laid before them, do not admit of the conviction, nor yield unto manifeſt reaſons, but do either ἐπέχειν, ſuſpend their aſſent, or give it to the leſs probable opinion: And to this danger are thoſe expoſed, who have taken up wrong meaſures of probability; which are,

1. Propoſitions that are not in themſelves certain and evident, but doubtful and falſe, taken up for principles.

2. Received hypotheſes.

3. Predominant paſſions or inclinations.

4. Authority.

1. Doubtful propoſitions taken for principles.

§. 8. Firſt, the firſt and firmeſt ground of probability is the conformity any thing has to our own knowledge; eſpecially that part of our knowledge which we have embraced, and continue to look on as principles. Theſe have ſo great an influence upon our opinions, that it is uſually by them we judge of truth, and meaſure probability to that degree, that what is inconſiſtent with our princi-

ples,

ples, is ſo far from paſſing for probable with us, that it will not be allowed poſſible. The reverence borne to theſe principles is ſo great, and their authority ſo paramount to all other, that the teſtimony not only of other men, but the evidence of our own ſenſes are often rejected, when they offer to vouch any thing contrary to theſe eſtabliſhed rules. How much the doctrine of innate principles, and that principles are not to be proved or queſtioned, has contributed to this, I will not here examine. This I readily grant, that one truth cannot contradict another: but withal I take leave alſo to ſay, that every one ought very carefully to beware what he admits for a principle, to examine it ſtrictly, and ſee whether he certainly knows it to be true of itſelf by its own evidence, or whether he does only with aſſurance believe it to be ſo upon the authority of others. For he hath a ſtrong biaſs put into his underſtanding, which will unavoidably miſguide his aſſent, who hath imbibed wrong principles, and has blindly given himſelf up to the authority of any opinion in itſelf not evidently true.

§. 9. There is nothing more ordinary, than children's receiving into their minds propoſitions (eſpecially about matters of religion) from their parents, nurſes, or thoſe about them: which being inſinuated into their unwary, as well as unbiaſſed underſtandings, and faſtened by degrees, are at laſt (equally whether true or falſe) rivetted there by long cuſtom and education, beyond all poſſibility of being pulled out again. For men, when they are grown up, reflecting upon their opinions, and finding thoſe of this ſort to be as ancient in their minds as their very memories, not having obſerved their early inſinuation, nor by what means they got them, they are apt to reverence them as ſacred things, and not to ſuffer them to be prophaned, touched, or queſtioned: they look on them as the Urim and Thummim ſet up in their minds immediately by God himſelf, to be the great and unerring deciders of truth and falſhood, and the judges to which they are to appeal in all manner of controverſies.

§. 10. This opinion of his principles (let them be what they will) being once eſtabliſhed, in any one's mind,

mind, it is eaſy to be imagined what reception any propoſition ſhall find, how clearly ſoever proved, that ſhall invalidate their authority, or at all thwart with theſe internal oracles; whereas the groſſeſt abſurdities and improbabilities, being but agreeable to ſuch principles, go down glibly, and are eaſily digeſted. The great obſtinacy that is to be found in men firmly believing quite contrary opinions, though many times equally abſurd, in the various religions of mankind, are as evident a proof, as they are an unavoidable conſequence, of this way of reaſoning from received traditional principles. So that men will diſbelieve their own eyes, renounce the evidence of their ſenſes, and give their own experience the lye, rather than admit of any thing diſagreeing with theſe ſacred tenets. Take an intelligent Romaniſt, that, from the firſt dawning of any notions in his underſtanding, hath had this principle conſtantly inculcated, viz. that he muſt believe as the church (i. e. thoſe of his communion) believes, or that the pope is infallible; and this he never ſo much as heard queſtioned, till at forty or fifty years old he met with one of other principles: how is he prepared eaſily to ſwallow, not only againſt all probability, but even the clear evidence of his ſenſes, the doctrine of tranſubſtantiation? This principle has ſuch an influence on his mind, that he will believe that to be fleſh which he ſees to be bread. And what way will you take to convince a man of any improbable opinion he holds, who, with ſome philoſophers, hath laid down this as a foundation of reaſoning, that he muſt believe his reaſon (for ſo men improperly call arguments drawn from their principles) againſt his ſenſes? Let an enthuſiaſt be principled, that he or his teacher is inſpired, and acted by an immediate communication of the divine ſpirit, and you in vain bring the evidence of clear reaſons againſt his doctrine. Whoever therefore have imbibed wrong principles, are not, in things inconſiſtent with theſe principles, to be moved by the moſt apparent and convincing probabilities, till they are ſo candid and ingenuous to themſelves, as to be perſuaded to examine even thoſe very principles, which many never ſuffer themſelves to do.

2. Received hypotheſes.

§. 11. Secondly, next to theſe are men whoſe underſtandings are caſt into a mould, and faſhioned juſt to the ſize of a received hypotheſes. The difference between theſe and the former is, that they will admit of matter of fact, and agree with diſſenters in that; but differ only in aſſigning of reaſons and explaining the manner of operation. Theſe are not at that open defiance with their ſenſes, with the former: they can endure to hearken to their information a little more patiently; but will by no means admit of their reports in the explanation of things; nor be prevailed on by probabilities, which would convince them that things are not brought about juſt after the ſame manner that they have decreed within themſelves that they are. Would it not be an inſufferable thing for a learned profeſſor, and that which his ſcarlet would bluſh at, to have his authority of forty years ſtanding, wrought out of hard rock Greek and Latin, with no ſmall expence of time and candle, and confirmed by general tradition and a reverend beard, in an inſtant overturned by an upſtart noveliſt? Can any one expect that he ſhould be made to confeſs, that what he taught his ſcholars thirty years ago, was all errour and miſtake; and that he ſold them hard words and ignorance at a very dear rate? What probabilities, I ſay, are ſufficient to prevail in ſuch a caſe? And who ever by the moſt cogent arguments will be prevailed with to diſrobe himſelf at once of all his old opinions, and pretences to knowledge and learning, which with hard ſtudy he hath all his time been labouring for; and turn himſelf out ſtark naked, in queſt afreſh of new notions? All the arguments that can be uſed, will be as little able to prevail, as the wind did with the traveller to part with his cloke, which he held only the faſter. To this of wrong hypotheſis may be reduced the errours that may be occaſioned by a true hypotheſis, or right principles, but not rightly underſtood. There is nothing more familiar than this. The inſtances of men contending for different opinions, which they all derive from the infallible truth of the ſcripture, are an undeniable proof of it. All that call themſelves Chriſtians allow the text, that ſays,

ſays, μετανοεῖτε, to carry in it the obligation to a very weighty duty. But yet how very erroneous will one of their practices be, who, underſtanding nothing but the French, take this rule with one tranſlation to be "repentez vous," repent; or with the other, "faitiez penitence," do penance!

3. Predominant paſſions.

§. 12. Thirdly, probabilities, which croſs men's appetites and prevailing paſſions, run the ſame fate. Let ever ſo much probability hang on one ſide of a covetous man's reaſoning, and money on the other; it is eaſy to foreſee which will outweigh. Earthly minds, like mud-walls, reſiſt the ſtrongeſt batteries: and though perhaps ſometimes the force of a clear argument may make ſome impreſſion, yet they nevertheleſs ſtand firm, and keep out the enemy truth, that would captivate or diſturb them. Tell a man, paſſionately in love, that he is jilted; bring a ſcore of witneſſes of the falſhood of his miſtreſs, it is ten to one but three kind words of hers ſhall invalidate all their teſtimonies. "Quod volumus, facile credimus;" What ſuits our wiſhes, is forwardly believed; is, I ſuppoſe, what every one hath more than once experimented: and though men cannot always openly gainſay or reſiſt the force of manifeſt probabilities that make againſt them, yet yield they not to the argument. Not but that it is the nature of the underſtanding conſtantly to cloſe with the more probable ſide; but yet a man hath a power to ſuſpend and reſtrain its inquiries, and not permit a full and ſatisfactory examination, as far as the matter in queſtion is capable, and will bear it to be made. Until that be done, there will be always theſe two ways left of evading the moſt apparent probabilities.

The means of evading probabilities: 1. Suppoſed fallacy.

§. 13. Firſt, that the arguments being (as for the moſt part they are) brought in words, there may be a fallacy latent in them: and the conſequences being, perhaps, many in train, they may be ſome of them incoherent. There are very few diſcourſes ſo ſhort, clear, and conſiſtent to which moſt men may not, with ſatisfaction enough to themſelves, raiſe this doubt; and from whoſe conviction they may not, without reproach

of diſingenuity or unreaſonableneſs, ſet themſelves free with the old reply, "non perſuadebis, etiamſi perſuaſeris;" Though I cannot anſwer, I will not yield.

2. Suppoſed arguments for the contrary.

§. 14. Secondly, manifeſt probabilities may be evaded, and the aſſent withheld upon this ſuggeſtion, that I know not yet all that may be ſaid on the contrary ſide. And therefore though I be beaten, it is not neceſſary I ſhould yield, not knowing what forces there are in reſerve behind. This is a refuge againſt conviction ſo open and ſo wide, that it is hard to determine, when a man is quite out of the verge of it.

What probabilities determine the aſſent.

§. 15. But yet there is ſome end of it; and a man having carefully inquired into all the grounds of probability and unlikelineſs, done his utmoſt to inform himſelf in all particulars fairly, and caſt up the ſum total on both ſides; may in moſt caſes come to acknowledge, upon the whole matter, on which ſide the probability reſts: wherein ſome proofs in matter of reaſon, being ſuppoſitions upon univerſal experience, are ſo cogent and clear; and ſome teſtimonies in matter of fact ſo univerſal; that he cannot refuſe his aſſent. So that, I think, we may conclude, that in propoſitions, where though the proofs in view are of moſt moment, yet there are ſufficient grounds to ſuſpect that there is either fallacy in words, or certain proofs as conſiderable to be produced on the contrary ſide; there aſſent, ſuſpence, or diſſent, are often voluntary actions: but where the proofs are ſuch as make it highly probable, and there is not ſufficient ground to ſuſpect, that there is either fallacy of words (which ſober and ſerious conſideration may diſcover) nor equally valid proofs, yet undiſcovered, latent on the other ſide (which alſo the nature of the thing may, in ſome caſes, make plain to a conſiderate man) there, I think, a man, who has weighed them, can ſcarce refuſe his aſſent to the ſide, on which the greater probability appears. Whether it be probable, that a promiſcuous jumble of printing letters ſhould often fall into a method and order, which ſhould ſtamp on paper a coherent diſcourſe; or that a blind fortuitous concourſe of atoms,

not

not guided by an underſtanding agent, ſhould frequently conſtitute the bodies of any ſpecies of animals: in theſe and the like caſes, I think, nobody that conſiders them can be one jot at a ſtand which ſide to take, nor at all waver in his aſſent. Laſtly, when there can be no ſuppoſition (the thing in its own nature indifferent, and wholly depending upon the teſtimony of witneſſes) that there is as fair teſtimony againſt, as for the matter of fact atteſted; which by inquiry is to be learned, v. g. whether there was one thouſand ſeven hundred years ago ſuch a man at Rome as Julius Cæſar: in all ſuch caſes, I ſay, I think it is not in any rational man's power to refuſe his aſſent; but that it neceſſarily follows, and cloſes with ſuch probabilities. In other leſs clear caſes, I think, it is in man's power to ſuſpend his aſſent; and perhaps content himſelf with the proofs he has, if they favour the opinion that ſuits with his inclination or intereſt, and ſo ſtop from farther ſearch. But that a man ſhould afford his aſſent to that ſide, on which the leſs probability appears to him, ſeems to me utterly impracticable, and as impoſſible, as it is to believe the ſame thing probable and improbable at the ſame time.

Where it is in our power to ſuſpend it.

§. 16. As knowledge is no more arbitrary than perception; ſo, I think, aſſent is no more in our power than knowledge. When the agreement of any two ideas appears to our minds, whether immediately, or by the aſſiſtance of reaſon, I can no more refuſe to perceive, no more avoid knowing it, than I can avoid ſeeing thoſe objects which I turn my eyes to, and look on in day-light: and what upon full examination I find the moſt probable, I cannot deny my aſſent to. But though we cannot hinder our knowledge, where the agreement is once perceived, nor our aſſent, where the probability manifeſtly appears upon due conſideration of all the meaſures of it: yet we can hinder both knowledge and aſſent, by ſtopping our inquiry, and not employing our faculties in the ſearch of any truth. If it were not ſo, ignorance, errour, or infidelity could not in any caſe be a fault. Thus in ſome caſes we can prevent or ſuſpend our aſſent: but can a man, verſed in modern or ancient hiſtory, doubt

whether there is ſuch a place as Rome, or whether there was ſuch a man as Julius Cæſar? Indeed there are millions of truths, that a man is not, or may not think himſelf concerned to know; as whether our king Richard the Third was crooked, or no; or whether Roger Bacon was a mathematician, or a magician. In theſe and ſuch-like caſes, where the aſſent one way or other is of no importance to the intereſt of any one; no action, no concernment of his, following or depending thereon; there it is not ſtrange, that the mind ſhould give itſelf up to the common opinion, or render itſelf to the firſt comer. Theſe and the like opinions are of ſo little weight and moment, that, like motes in the ſun, their tendencies are very rarely taken notice of. They are there, as it were, by chance, and the mind lets them float at liberty. But where the mind judges that the propoſition has concernment in it; where the aſſent or not aſſenting is thought to draw conſequences of moment after it, and good and evil to depend on chooſing or refuſing the right ſide; and the mind ſets itſelf ſeriouſly to inquire and examine the probability; there, I think, it is not in our choice to take which ſide we pleaſe, if manifeſt odds appear on either. The greater probability, I think, in that caſe will determine the aſſent: and a man can no more avoid aſſenting, or taking it to be true, where he perceives the greater probability, than he can avoid knowing it to be true, where he perceives the agreement or diſagreement of any two ideas.

If this be ſo, the foundation of errour will lie in wrong meaſures of probability; as the foundation of vice in wrong meaſures of good.

4. Authority. §. 17. Fourthly, the fourth and laſt wrong meaſure of probability I ſhall take notice of, and which keeps in ignorance or errour more people than all the other together, is that which I mentioned in the foregoing chapter; I mean, the giving up our aſſent to the common received opinions, either of our friends or party, neighbourhood or country. How many men have no other ground for their tenets, than the ſuppoſed honeſty, or learning, or number, of thoſe of the ſame profeſſion? As if honeſt or bookiſh men could not

err,

err, or truth were to be eſtabliſhed by the vote of the multitude: yet this with moſt men ſerves the turn. The tenet has had the atteſtation of reverend antiquity, it comes to me with the paſſport of former ages, and therefore I am ſecure in the reception I give it: other men have been, and are of the ſame opinion (for that is all is ſaid) and therefore it is reaſonable for me to embrace it. A man may more juſtifiably throw up croſs and pile for his opinions, than take them up by ſuch meaſures. All men are liable to errour, and moſt men are in many points, by paſſion or intereſt, under temptation to it. If we could but ſee the ſecret motives that influenced the men of name and learning in the world, and the leaders of parties, we ſhould not always find that it was the embracing of truth for its own ſake, that made them eſpouſe the doctrines they owned and maintained. This at leaſt is certain, there is not an opinion ſo abſurd, which a man may not receive upon this ground. There is no errour to be named, which has not had its profeſſors: and a man ſhall never want crooked paths to walk in, if he thinks that he is in the right way, wherever he has the footſteps of others to follow.

Men not in ſo many errours as imagined.

§. 18. But, notwithſtanding the great noiſe is made in the world about errours and opinions, I muſt do mankind that right, as to ſay there are not ſo many men in errours and wrong opinions, as is commonly ſuppoſed. Not that I think they embrace the truth: but indeed, becauſe concerning thoſe doctrines they keep ſuch a ſtir about, they have no thought, no opinion at all. For if any one ſhould a little catechiſe the greateſt part of the partizans of moſt of the ſects in the world, he would not find, concerning thoſe matters they are ſo zealous for, that they have any opinions of their own: much leſs would he have reaſon to think, that they took them upon the examination of arguments, and appearance of probability. They are reſolved to ſtick to a party, that education or intereſt has engaged them in; and there, like the common ſoldiers of an army, ſhow their courage and warmth as their leaders direct, without ever examining or ſo much as knowing the cauſe they contend for.

for. If a man's life ſhows, that he has no ſerious regard for religion; for what reaſon ſhould we think, that he beats his head about the opinions of his church, and troubles himſelf to examine the grounds of this or that doctrine? It is enough for him to obey his leaders, to have his hand and his tongue ready for the ſupport of the common cauſe, and thereby approve himſelf to thoſe who can give him credit, preferment or protection in that ſociety. Thus men become profeſſors of, and combatants for, thoſe opinions they were never convinced of, nor proſelytes to; no, nor ever had ſo much as floating in their heads: and though one cannot ſay, there are fewer improbable or erroneous opinions in the world than there are; yet it is certain, there are fewer that actually aſſent to them, and miſtake them for truth, than is imagined.

CHAP. XXI.

Of the Diviſion of the Sciences.

Three ſorts. §. 1. ALL that can fall within the compaſs of human underſtanding, being either, firſt, the nature of things, as they are in themſelves, their relations, and their manner of operation: or, ſecondly, that which man himſelf ought to do, as a rational and voluntary agent, for the attainment of any end, eſpecially happineſs: or, thirdly, the ways and means, whereby the knowledge of both the one and the other of theſe is attained and communicated: I think, ſcience may be divided properly into theſe three ſorts.

1. Phyſica. §. 2. Firſt, the knowledge of things, as they are in their own proper beings, their conſtitution, properties, and operations; whereby I mean not only matter and body, but ſpirits alſo, which have their proper natures, conſtitutions, and operations, as well as bodies. This, in a little more enlarged ſenſe of the word, I call Φυσικὴ, or natural philoſophy. The end of this is bare ſpeculative truth; and whatſoever can

afford

afford the mind of man any ſuch, falls under this branch, whether it be God himſelf, angels, ſpirits, bodies, or any of their affections, as number, and figure, &c.

§. 3. Secondly, Πρακτικὴ, the ſkill of right applying our own powers and actions, for the attainment of things good and uſeful. The moſt conſiderable under this head is ethics, which is the ſeeking out thoſe rules and meaſures of human actions, which lead to happineſs, and the means to practiſe them. The end of this is not bare ſpeculation, and the knowledge of truth; but right, and a conduct ſuitable to it. 2. Practica.

§. 4. Thirdly, the third branch may be called Σημειωτικὴ, or the doctrine of ſigns, the moſt uſual whereof being words, it is aptly enough termed alſo Λογικὴ, logick; the buſineſs whereof is to conſider the nature of ſigns, the mind makes uſe of for the underſtanding of things, or conveying its knowledge to others. For ſince the things the mind contemplates are none of them, beſides itſelf, preſent to the underſtanding, it is neceſſary that ſomething elſe, as a ſign or repreſentation of the thing it conſiders, ſhould be preſent to it: and theſe are ideas. And becauſe the ſcene of ideas that makes one man's thoughts, cannot be laid open to the immediate view of another, nor laid up any where but in the memory, a no very ſure repoſitory; therefore to communicate our thoughts to one another, as well as record them for our own uſe, ſigns of our ideas are alſo neceſſary. Thoſe which men have found moſt convenient, and therefore generally make uſe of, are articulate ſounds. The conſideration then of ideas and words, as the great inſtruments of knowledge, makes no deſpicable part of their contemplation, who would take a view of human knowledge in the whole extent of it. And perhaps if they were diſtinctly weighed, and duly conſidered, they would afford us another ſort of logic and critic, than what we have been hitherto acquainted with. Σημειωτικὴ.

§. 5. This ſeems to me the firſt and moſt general, as well as natural diviſion of the objects of our underſtanding. For a man *can employ his* thoughts about nothing, but *either the* contemplation of things themſelves This is the firſt diviſion of the objects of knowledge.

ſelves for the diſcovery of truth; or about the things in his own power, which are his own actions, for the attainment of his own ends; or the ſigns the mind makes uſe of both in the one and the other, and the right ordering of them for its clearer information. All which three, viz. things as they are in themſelves knowable; actions as they depend on us, in order to happineſs: and the right uſe of ſigns in order to knowledge, being toto cœlo different, they ſeemed to me to be the three great provinces of the intellectual world, wholly ſeparate and diſtinct one from another.

The End of the Eſſay of HUMAN UNDERSTANDING.

A

DEFENCE

OF

Mr. LOCKE's OPINION

CONCERNING

PERSONAL IDENTITY.

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THE candid author of the late eſſay upon perſonal identity cannot juſtly be offended with any attempt to explain and vindicate Mr. Locke's hypotheſis, if it is carried on in the ſame ſpirit, though it ſhould be attended with the overthrow of ſome of his own favourite notions; ſince he owns that it is of conſequence to form right opinions on this point: which was indeed once deemed an important one, how little ſoever ſuch may be regarded now-a-days. I ſhall proceed therefore, without farther apology, to ſettle the terms of this queſtion, and endeavour to ſtate it ſo as to bring matters to a ſhort and clear determination.

Now the word perſon, as is well obſerved by Mr. Locke (the diſtinguiſhing excellence of whoſe writings conſiſts in ſticking cloſe to the point in hand, and ſtriking out all foreign and impertinent conſiderations) is properly a forenſic term, and here to be uſed in the ſtrict forenſic ſenſe, denoting ſome ſuch quality or modification in man as denominates him a moral agent, or an accountable creature; renders him the proper ſubject of laws, and a true object of rewards or puniſhments. When we apply it to any man, we do not treat of him abſolutely, and in groſs; but under a particular relation or preciſion: we do not comprehend or concern ourſelves about the ſeveral inherent properties which accompany him in real exiſtence, which go to the making up the whole complex notion of an active and intelligent being; but arbitrarily abſtract one ſingle quality or

or mode from all the reſt, and view him under that diſtinct preciſion only which points out the idea above-mentioned, excluſive of every other idea that may belong to him in any other view, either as ſubſtance, quality, or mode. And therefore the conſideration of this ſame quality, or qualification, will not be altered by any others of which he may be poſſeſſed; but remains the ſame whatever he ſhall conſiſt of beſides: whether his ſoul be a material or immaterial ſubſtance, or no ſubſtance at all, as may appear from examining the import of theſe pronouns, I, thou, he, &c. [the grammatical meaning of ſuch words generally pointing out the true origin of our ideas primarily annexed to them] which both in their original ſenſe and common acceptation are purely perſonal terms, and as ſuch lead to no farther conſideration either of ſoul or body; nay, ſometimes are diſtinguiſhed from both, as in the following line,

Linquebant dulces animas, aut ægra trahebant
Corpora *.

An inquiry after the identity of ſuch perſon will be, whether at different times he is, or how he can be, and know himſelf to be the ſame in that reſpect, or equally ſubjected to the very ſame relations and conſequent obligations which he was under formerly, and in which he ſtill perceives himſelf to be involved, whenever he reflects upon himſelf and them. This we ſhall find to conſiſt in nothing more, than his becoming ſenſible at different times of what he had thought or done before: and being as fully convinced that he then thought or did it, as he now is of his preſent thoughts, acts, or exiſtence.

Beyond this we neither can, nor need go for evidence in any thing; this, we ſhall ſoon ſee, is the clear and only medium through which diſtant things can be diſcovered and compared together; which at the ſame time ſufficiently aſcertains and eſtabliſhes their ſeveral natures and realities reſpectively; ſo far as they relate to our-

* See Locke on 1 Cor. xv. 53.

ſelves

ſelves and to each other: or if this ſhould not be eſteemed ſufficient to that end, we ſhall find, in the laſt place, that there is nothing elſe left for it. This diſtinct conſciouſneſs of our paſt actions, from whence ariſe all the ideas of merit and demerit, will moſt undoubtedly be regarded with the ſtricteſt exactneſs in foro divino; and indeed has its due weight in foro humano, whenever it can be with certainty determined: wherever this appears to be wanting, all judicial proceedings are at an end. How plain ſoever any criminal act were, the man would now-a-days be acquitted from guilt in the commiſſion of it, and diſcharged from the penalties annexed to ſuch fact, could it at the ſame time be as plainly made out, that he was incapable of knowing what he did, or is now under a like incapacity of recollecting it. And it would be held a ſufficient reaſon for ſuch acquittal, that the puniſhment, or perſecution of a creature in theſe circumſtances, could not anſwer the end propoſed by ſociety in puniſhment, viz. the prevention of evil, the only end that I know of, which can juſtify puniſhments in any caſe. The reaſon then why ſuch a plea has uſually ſo ſmall regard paid to it in courts of juſtice, is, I apprehend, either the difficulty of having this incapacity proved with the ſame clearneſs that the fact itſelf is eſtabliſhed; or the common maxim that one crime, or criminal indiſpoſition, is not admiſſible in excuſe for another; as in caſes of drunkenneſs, violent paſſion, killing or maiming men by miſtake when one is engaged in an unlawful purſuit, &c. Or in ſome of theſe caſes perhaps men are puniſhed for the murders, &c. not becauſe they poſſibly may be conſcious of them, and yet that conſciouſneſs not appear; but that ſuch evils may be more effectually prevented by ſtriking at the remoter cauſe, i.e. exciting a ſalutary terrour of thoſe confeſſedly evil practices and habits, which are often found to terminate in ſuch fatal effects. A kind of injuſtice is here indeed committed by ſociety, which we have no reaſon to ſuppoſe will be admitted in foro divino, and ſome worſe inſtances may be ſeen in our ſtatute books. By the 23 of Hen. 8. a man becoming lunatic after an act of treaſon ſhall be liable to be arraigned, tried, and exe-

cuted. But Hale * in his P. C. ſays, That if a traitor becomes non compos before conviction he ſhall not be arraigned; if after conviction, he ſhall not be executed: and Hawkins † obſerves the ſame concerning thoſe who have committed any capital offences.

In human courts, which cannot always dive into the hearts of men and diſcover the true ſprings of action, nor conſequently weigh the effects and operations of each in an equal balance: in this ſtate of ignorance and uncertainty, ſuch a notorious indiſpoſition as that of drunkenneſs, v. g. being generally a great fault in itſelf, is ſeldom allowed in extenuation of ſuch others as are committed under its influence; nor indeed does it, I believe, often produce any new, materially different trains of thinking, or totally obliterate the old ones; but where this is really ſo, the Deity would make juſt abatement for ſuch defect or diſability, as was at the time both unconquerable and unavoidable; nor can we properly impute actions conſequent upon any real diſorder of the rational faculties, howſoever that diſorder might have been contracted; and therefore all animadverſions upon them muſt be in vain: nor is a man puniſhable for any thing beſide the bare act of contracting ſuch diſorder, or for the original cauſe of this diſability, how great or durable ſoever; the dangerous conſequences of which he did, or might foreſee. As is the caſe in ſome other confirmed habits, viz. that of ſwearing, &c. which often operate mechanically and unperceived, and in which therefore all the moral turpitude (or what is ſo accounted) ariſing from them, never can reach beyond the fountain-head from whence they are derived, and from which all the effects of them naturally, and even neceſſarily flow. We muſt therefore conclude in general, that a perſon's guilt is eſtimated according to his paſt and preſent conſciouſneſs of the offence, and of his having been the author of it. Nor is it merely his having forgotten the thing, but his having ſo far loſt the notion of it out of his mind, that how frequently ſoever, or in what forcible manner ſoever, it may be pre-

* Hale P. C. 10. † Hawk. P. C. c.

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ſented to him again, he lies under an utter incapacity of becoming ſenſible and ſatisfied that he was ever privy to it before, which is affirmed to render this thing really none of his, or wholly exculpate him when called to anſwer for it. Suppoſe this ſame conſciouſneſs to return, his accountableneſs (call it perſonality, or what you pleaſe) will return along with it: that is, the infliction of evil upon him will now anſwer ſome purpoſe, and therefore he muſt be conſidered as now liable to it. Thus ſome wholly loſe the uſe of their intellectual faculties for a time, and recover them at intervals. In ſuch caſes they are conſidered as puniſhable by laws, and ſo declared by juries, in proportion to the probability of their being conſcious of the fact. Others lie under a partial deprivation of ſome one faculty for certain periods, while they continue to enjoy the reſt in tolerable perfection. I knew a learned man, who was ſaid to recollect with eaſe ſubjects upon which he had written, or any others that had been diſcuſſed before the laſt ten or fifteen years; could reaſon freely, and readily turn to the authors he had read upon them; but take him into the latter part of his life, and all was blank; when any late incidents were repeated to him, he would only ſtare at you, nor could he be made ſenſible of any one modern occurrence however ſtrongly repreſented to him. Was this man equally anſwerable for all tranſactions within the laſt period of his life, as for thoſe in the firſt? Or if he could have been made ſenſible of the latter part, but had irrecoverably loſt the former; could that former part have been in like manner imputed to him? Surely not. And the reaſon plainly is, becauſe ſociety could find no advantage from conſidering him as accountable in either caſe. Which ſhows perſonality to be ſolely a creature of ſociety, an abſtract conſideration of man, neceſſary for the mutual benefit of him and his fellows; i. e. a mere forenſic term; and to inquire after its criterion or conſtituent, is to inquire in what circumſtances ſocieties or civil combinations of men have in fact agreed to inflict evil upon individuals, in order to prevent evils to the whole body from any irregular member. Daily experience ſhows, that they always

make conſciouſneſs of the fact a neceſſary requiſite in ſuch puniſhment, and that all inquiry relates to the probability of ſuch conſciouſneſs. The execution of divine juſtice muſt proceed in the ſame manner. The Deity inflicts evil with a ſettled view to ſome end; and no end worthy of him can be anſwered by inflicting it as a puniſhment, unleſs to prevent other evils. Such end may be anſwered, if the patient is conſcious, or can be made conſcious of the fact, but not otherwiſe. And whence then does this difference in any one's moral capacity ariſe, but from that plain diverſity in his natural one? from his abſolute irretrievable want of conſciouſneſs in one caſe, and not in the other? Suppoſe now that one in the former condition kills a man; that he, or ſome part of what we call him, was ever ſo notoriouſly the inſtrument, or occaſion of that death; yet if he was either then inſenſible of the fact, or afterwards became ſo, and ſo continued: Would he be any more guilty of murder, than if that death had been occaſioned by another perſon? ſince at that time he was truly ſuch, or at leaſt is ſo now, notwithſtanding that moſt people might be apt to judge him ſtill the ſame, from a ſameneſs in outward circumſtances, (which generally ſupply the beſt means men have of judging) from his ſhape, mien, or appearance; though theſe often differ widely from the internal conſtitution, yet are as often miſtaken for it; and this accordingly thought and ſpoke of with little more philoſophical propriety, than when we, in the vulgar phraſe, deſcribe a man's condition by ſaying, We would not be in his coat.

Suppoſe one then in the ſituation abovementioned; could any pains, think you, inflicted on him ſuit the idea, or anſwer the ends of puniſhment, either with regard to himſelf, or others, farther than mere ſhow and deluſion? Rewards and puniſhments are evidently inſtituted for the benefit of ſociety, for the encouragement of virtue, or ſuppreſſion of vice, in the object thus rewarded or puniſhed, and in the reſt of the community; but what tendency to the above purpoſes can either of theſe have, if diſpenſed to one who is not ſo far himſelf as to become conſcious of having done any thing to

deſerve

deſerve it? What inſtruction is conveyed to him? What admonition to ſuch others, as are duly acquainted with the whole of the caſe, and ſee every circumſtance thus groſsly miſapplied? And as in theſe caſes, laws only can define the circumſtances in which a man ſhall be treated as accountable, they only can create guilt, i. e. guilt alſo is a forenſic term, or a mode of conſidering any action, which in its eſſence implies knowledge of a law, offence againſt that law, and a ſenſe of having offended againſt it; i. e. an after conſciouſneſs of the fact; without which after conſciouſneſs, puniſhment would be of little avail, as it would neither ſerve to guard the man himſelf againſt a like delinquency, nor tend to the warning of others, who by ſuch inflictions would openly perceive that they might chance to ſuffer pain, without being able to aſſign a reaſon for it.—Thus may perſonality be extended or contracted, and vary in various reſpects, times, and degrees, and thereby become liable to great confuſion, in our applying it to various ſubjects; yet is the ground and foundation of it fixed; and when once diſcovered, its conſequences are not leſs ſo, both before God and man.

Abſtract, general ideas (of which this is an eminent one) are alone productive of certain, uniform, and univerſal knowledge: Thus qualities of a certain kind, when abſtracted, or taken apart from nature, and ſet up for common ſtandards, are ſo far independent as to become abſolute, unmixed, or perfect in themſelves *, however different they may be found in their reſpective concretes. Thus goodneſs, juſtice, guilt, merit, &c. in general, are ever the ſame goodneſs, &c. all the world over, however imperfectly they may appear in any particular ſubjects, times, and places. In the ſame manner as a line, or the abſtract conſideration of length without thickneſs or breadth; the conſideration of ſurface, i. e. length and breadth without thickneſs, muſt be the ſame, in all intelligent beings of like faculties with us, though the natural ſubſtances which ſuggeſt them may differ

* Note 10. to King's Origin of Evil. Rem. k.

with an endleſs variety. Let perſonality anſwer to a line or ſurface; let the ſubſtances it is predicated of, like the infinite variety of ſolids in nature, (with their appendages, heat, cold, colour, &c.) in which length and breadth are found, vary as you pleaſe; ſtill the abſtract ideas of line and ſurface, and therefore of perſon, will remain invariable. And thus propoſitions formed out of theſe general ideas contain certain truths, that are in one ſenſe eternal and immutable, as depending on no precarious exiſtences whatever. Being merely what we ourſelves make them, they muſt continue the ſame while the ſame number of ſuch ideas continue joined together, and appear the ſame to every intelligent being that contemplates them *. They do not ſtand in need (I ſay) of an objective reality, or the exiſtence of any external things in full conformity to them, ſince we here conſider things no farther than as coming up to theſe original ſtandards, ſettled in the minds of men; or as capable of being included in ſuch meaſures as are applied to determine their preciſe quantity, quality, &c. we are ranking them under a certain ſpecies or ſort, hence called their eſſence, which entitles them to the name deſcriptive of it, as is ſufficiently explained by Mr. Locke. They want therefore nothing more to eſtabliſh their reality, than to be conſiſtently put together, ſo as may diſtinguiſh them from others that are merely chimerical, and qualify them for the admiſſion of any real beings that may occur: Thus, not only the inſtance of a triangle ſo frequently uſed by Mr. Locke, but every theorem in Euclid, may be ranked among the abſtract conſiderations of quantity, apart from all real exiſtence, which ſeldom comes up to it: As it may be juſtly queſtioned whether any triangle or circle, as defined by him, ever exiſted in nature, i. e. exiſted ſo that all the lines of the triangle were right ones, or all the lines drawn from the centre to the circumference equal. Theſe ideas preſuppoſe † no one being in particular, they imply nothing more than a proper ſubject of in-

* See the firſt note to A. B. King's Origin of Evil.

† Vide Bp. Butler's Diſſ. on Perſonal Identity.

ıiry (as was ſaid above) or ſome ſuch creature as is ther actually endowed with, or at leaſt ſuſceptible of ıeſe ſpecific qualities, or modes, which furniſh matter r the whole tribe of abſtractions daily made and pre-rved by ſuch terms as uſually ſerve to denote them; hether appellatives, in order to diſtinguiſh men in eir ſeveral ſtations and relations, private or public; to ſcribe their character or conduct, office, &c. as pa-nt, patriot, king, &c. or ſuch more general, technical ıes, as paternity, patriotiſm, kingſhip, &c. the nature, ıd, and uſe, of all which abſtractions, with their names, e well enough underſtood, and would not eaſily be iſtaken in affairs of common life, which are happily ſs liable to ſuch kind of ſubtile refinements, as have rought metaphyſical ſpeculations into that contempt ıder which they have long laboured. In ſhort, of ıeſe ſame abſtractions conſiſt all general terms and ıeorems of every ſcience; and the truth and certainty ıntained in them, when applied to morals or theology, no leſs determinate than in other ſciences; it is equally ıpable of ſtrict demonſtration, as Mr. Locke obſerves, ıd equally applicable to full as uſeful and important urpoſes: The great general truths, I ſay, ariſing out of ıeſe general eſſences, or entities, (as they are ſome-mes called) are all clear, conſtant, and invariable in ıemſelves, though the names in which ſuch a collec-on of ideas ſhould be preſerved, are often through the overty and imperfection of language rendered extremely ague and uncertain in each writer or ſpeaker, and the leas formed by them in other men's minds (which are ıeir proper archetypes, and a conformity to which lone makes them right or wrong, truly or untruly pplied) thereby become no leſs frequently confuſed and determinate. Thus, in the caſe before us, the word erſon is often uſed to ſignify the whole aggregate of a ıtional being, including both the very imperfect idea, it be any idea at all, of ſubſtance, and its ſeveral pro-erties, [as is the common way] or taking all the eſſen-ial qualities together, [which properly conſtitute the ubſtance of any thing *] with ſeveral of their modes.

* *See the firſt note to King, and the authors there cited.*

As when ſpeaking of any one, we include ſoul, body, ſtation, and other circumſtances, and accordingly ſtyle him a wiſe, worthy perſon; a tall, comely; a rich, great one, &c. where perſon in a lax, popular ſenſe ſignifies as much as man. In which popular ſenſe Mr. Locke manifeſtly takes the word, when he ſays, it "ſtands for "a thinking intelligent being, that has reaſon and "reflection, and can conſider itſelf as itſelf, the ſame "thinking being, in different times and places." B. 2. C. 27. §. 9. But when the term is uſed more accurately and philoſophically, it ſtands for one eſpecial property of that thing or being, ſeparated from all the reſt that do or may attend it in real exiſtence, and ſet apart for ranging ſuch beings into diſtinct claſſes, (as hinted above) and conſidering them under diſtinct relations and connexions, which are no leſs neceſſary to be determined in life, and which ſhould therefore have their proper and peculiar denomination. And thus ſameneſs of perſon ſtands to denote, not what conſtitutes the ſame rational agent, though it always is predicated of ſuch; but we conſider his rationality ſo far only, as it makes him capable of knowing what he does and ſuffers, and on what account, and thereby renders him amenable to juſtice for his behaviour, as above-mentioned.

Whatever ingredients therefore of different kinds go to the compoſition, what other particulars, whether mental or corporeal, contribute to the formation of this intelligent being, theſe make no part of our inquiry; which, I beg leave to repeat it again, is not what enters into the natural conſtitution of a thing, but what renders it ſo far a moral one, and is the ſine quâ non of its being juſtly chargeable with any of its paſt actions, here or hereafter: Or, in other words, it does not affect the reality or the permanency of ſuch intelligent beings, but only regulates and retains thoſe beings under ſuch a moral relation, as makes them properly accountable to ſome ſuperior for their courſe of action. It is an artificial diſtinction, yet founded in the nature, but not the whole nature of man, who muſt have many other eſſential powers and properties to ſubſiſt as man, and even to ſupport this in queſtion; but none other, we ſay, that

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can affect, or in any wiſe alter his condition in the above-named reſpect, and therefore none that come with propriety into the preſent conſideration.

This is all the myſtery of the matter, which has puzzled ſo many ingenious writers, and been ſo marvellouſly miſtaken by ſuch as are not ſufficiently acquainted with the doctrine of abſtractions, or are miſled by terms of art, inſtead of attending to the preciſe ideas which theſe ought to convey, and would always convey if they were but carefully and ſteadily applied; for want of which proper application, men of genius and good ſenſe have fallen into ſuch egregious trifling *, as ſerves only to diſturb this beyond moſt other parts of ſcience, and has filled the above celebrated queſtion with a multitude of quibbles, which Mr. Locke's clear and copious anſwers to his ſeveral opponents might, one would have hoped, have moſt effectually prevented; but which are ſubſiſting to this very day, to the no ſmall mortification of all ſincere lovers of truth, and admirers of that able defender of it. And I have been the larger on this head of general words and notions, which have ſo cloſe a con-

* An extraordinary inſtance of this kind is to be met with in Biſhop Berkeley, which he calls a demonſtration of the point; where the ſuppoſed union of A and C, not with the whole of B, but with ſome different parts of which B conſiſts, will hardly make them one with each other;——But this famous demonſtration may be ranked among ſome others of the ſame ſort, and ſafely truſted with the reader: 'Let us ſuppoſe that a perſon hath ideas, and is conſcious during a certain ſpace of time, which we will divide into three equal parts, whereof the latter terms are marked by the letters A, B, C. In the firſt part of time the perſon gets a certain number of ideas, which are retained in A: during the ſecond part of time he retains one half of his old ideas, and loſeth the other half, in place of which he acquires as many new ones: ſo that in B his ideas are half old and half new. And in the third part we ſuppoſe him to loſe the remainder of the ideas acquired in the firſt, and to get new ones in their ſtead, which are retained in C, together with thoſe acquired in the ſecond part of time.—The perſons in A and B are the ſame, being conſcious of common ideas by the ſuppoſition. The perſon in B is (for the ſame reaſon) one of the ſame with the perſon in C. Therefore the perſon in A is the ſame with the perſon in C, by that undoubted axiom, quæ conveniunt uni tertio conveniunt inter ſe. But the perſon in C hath no idea in common with the perſon in A. Therefore perſonal identity doth not conſiſt in conſciouſneſs.' Alciphron, v. 2. p. 160.

nexion with each other, and with the preſent queſtion, as the ſubject perhaps is not ſufficiently explained by Mr. Locke in any one place of his admirable eſſay, though it occurs pretty often; and ſince the ſeveral properties or attributes of theſe ſame abſtract ideas are ſtill ſo miſerably miſunderſtood, as to have their very exiſtence diſputed, probably becauſe he has been pleaſed to ſet it forth in a manner ſomewhat paradoxical. Though this word exiſtence alſo is a term often miſapplied, as if nothing could really exiſt which was not an object of the ſenſes: Whereas in theſe, and ſeveral other ideas, as has been often obſerved, their eſſe is percipi.

Again, We are often miſled on the other hand by imagining what things are in themſelves (as we uſually term it) or in their internal eſſences; inſtead of conſidering them as they appear, and ſtand related to us; or according to the ideas that are obviouſly ſuggeſted by them; which ideas only ſhould be the objects of our contemplation, (ſince we really perceive nothing elſe) and ought always to regulate our inquiry into things, as theſe are the ſole foundation of all our knowledge concerning them, of all that can with ſafety direct, or be of ſervice to us.

But to return to our author. The property then, or quality, or whatever he chooſes to call it, which, in his own words, renders men "ſenſible that they are the ſame" in ſome reſpects, is in Mr. Locke's ſenſe, in the legal, and in common ſenſe, that which ſo far makes them ſuch, or brings them into the ſame relative capacity of being ranked among moral, ſocial creatures, and of being treated accordingly, for ſeveral obvious purpoſes in ſocial life. This conſciouſneſs, I ſay, of being thus far ourſelves, is what, in Mr. Lock's language, makes us ſo. In this caſe, as in ſome other ideal objects, to be, and be perceived, is really the ſame, and what this author calls the ſign, coincides with the thing ſignified. Whether any intelligent being is at preſent what he is in every reſpect, wants no proof; of this he has ſelf-evident intuitive knowledge*, and can go no higher. And whether he now is what he was once be-

* See note 10. to King. Rem. a.

fore

fore, in this ſingle article of perſonality, can only be determined by his now being ſenſible of what he then thought and did, which is equally ſelf-evident; and thus again, conſciouſneſs at the ſame time, and by the ſame means, that it convinces him of this, does likewiſe conſtitute him ſuch to all ends and purpoſes whatſoever.

Well then, having examined a little into the nature, and enumerated ſome few properties of an abſtract idea in general, and ſhown that this particular one before us can be nothing more, we may find perhaps that however fluctuating and changeful this account may be judged to render perſonality; how much ſoever it may fall ſhort of ſome ſublime ſyſtems about purely immaterial ſubſtances, and perfectly independent principles of thought; yet there is no help for theſe changes in the ſeat of perſonality; ſince, in the laſt place, we know of nothing more ſtable aud permanent in our conſtitution that has the leaſt pretence to ſettle and ſupport it. All parts of the body are to a certain degree in perpetual flux, nor is any one of them, that we are acquainted with, concerned in the preſent caſe more than another. As to the mind, both its cogitative and active powers are ſuſpended (whether they be ſo or not is a matter of fact, in which experience only, and not ſubtile argumentations drawn from the nature of an unknown, perhaps imaginary, eſſence ought to decide) during ſound ſleep: Nay, every drowſy nod (as Mr. Locke expreſſes it) muſt ſhake their doctrine, who maintain that theſe powers are inceſſantly employed. Call then a reſuſcitation or revival of theſe powers, when we awake, another beginning of their exiſtence, a new creation; and argue againſt the poſſibility of any ſuch interruption or annihilation of them, as long as you pleaſe; yet that it is matter of fact, and nightly experience, and capable of as good proof as a negative propoſition will admit, is made out ſufficiently by the above-named excellent writer. This, if properly attended to, and purſued through its genuine conſequences, would go a great way towards unfolding the true nature of the human mind, which many thoughtful men ſeem yet very little acquainted

quainted with, and very much afraid to examine *. And while this diſpoſition holds, we can never expect to come at the original core of all thoſe corruptions that have infected this branch of philoſophy, and extended

* Will not the leaſt hint of this doctrine, ſay they, give great offence, by appearing to undermine the ſettled diſtinction between ſoul and body, which is ſo much countenanced and confirmed in ſcripture?—Does it not tend to diſturb common apprehenſions, and confound both the ſenſe and language of mankind?

Anſw. 1. If this doctrine be true, and a truth of ſome importance, it will ſurely ſtand the teſt, and ought to be ſupported, againſt all ſuch inconcluſive argumentations as are drawn from conſequences, and common prejudices, and can only ſerve to obſtruct all kinds of improvement in any ſcience whatſoever.

Anſw. 2. The two great conſtituents of our frame frequently alluded to in ſcripture, and to which [as to other popular notions and received forms of expreſſion] it uſually accommodates itſelf, are here no more confounded, than when St. Paul introduces a third as no leſs eſſential to the whole of our compoſition: "I pray God your whole ſpirit, and ſoul, "and body, be preſerved blameleſs unto the coming of our Lord Jeſus "Chriſt." 1 Theſſ. v. 23.

So far is either the true ſenſe of ſcripture, or the real nature of things, from being confined to the logical arrangement of them under their eſtabliſhed genera or ſpecies; ſo little concerned either in our phyſical or metaphyſical diſtinctions of them, v. g. into animal and vegetable, material and immaterial, ſubſtance and property, &c. nor is its language more confounded, or its authority ſhaken, by ſuch a new ſyſtem of pneumatology, than it was by the late one of Copernicus concerning each of the planetary motions; which proved, that ſtrictly and philoſophically ſpeaking neither does the ſun riſe, nor the earth ſtand upon pillars, &c. or by Newton's principles of gravity and vacuum (for whoſe ſuppoſed innovations his French commentators lately thought themſelves ſtill obliged to enter their caveat, and make apology to the church;) or Locke's more hardy doctrine of "no innate ideas;" of which this doctrine of ours is a neceſſary conſequence; ſince if the mind was once a mere raſa tabula, it will ſoon appear not only from whence it received all its furniture, but alſo where that is lodged. (See Eſq. Search's account of what he terms the mind's internal organs. Light of Nat. purſued, c. 7. 8.) all which were once equally dangerous and offenſive poſitions; but would ſuch ſurmiſes, as have been advanced about them, be admitted in any other caſe? would even a Romiſh, or any other inquiſition now be found weak or wicked enough to proceed upon them? and if at laſt an author ſhall incur the odium theologicum, and be traduced by the name of ſadducee, ſocinian, ſemipagan, &c. for his innocent, as he thinks, perhaps laudable intentions;—if offence will be taken, as it often happens, where no juſt cauſe of offence is given; he muſt patiently ſubmit to his hard fate, and only beg leave to inquire whether there be not ſome room for ſuſpending our judgment awhile, 'till it more fully appears where the fault of all this chiefly lies, and who is really anſwerable for it.

themſelves to ſome other parts of ſcience. Nor are the ſeveral proofs, or, if you pleaſe, probabilities, that I was not thinking all the laſt night, ſufficiently anſwered by the old excuſe that I may forget all ſuch thoughts immediately as ſoon as ever I awake: for ſetting aſide the great improbability of this happening ſo very conſtantly, for ſo long a time, it muſt appear to any one who underſtands what he ſays, that whoſoever, or whatſoever, was thus employed, it could not poſſibly be I who was all this while buſily engaged in ſuch thoughts, ſince they never bore the leaſt ſhare in my ſeries of conſciouſneſs, never were connected with the chain of my waking thoughts, nor therefore could any more belong to me, than if you ſuppoſe them (as you might full as well, for argument's ſake, and to ſalve an hypotheſis) to be the working of ſome ſecret mechaniſm, or kept up in the watch that was lying by me. Something like this, I preſume, would be the plea, which all the advocates for this lame ſyſtem would offer in their own defence, were any one ſo injurious as to charge them with things done or ſaid in their ſleep. The ſame obſervation may be urged againſt that abſurd, ſelf-repugnant hypotheſis of our having been in a pre-exiſtent ſtate: for whatſoever was done there, it can be nothing to us, who had never the leaſt notice or conception of it.

To the difficulties ſo often objected, of this being a "new creation," and making the ſame thing have "two beginnings of exiſtence;"—We may obſerve, that it would indeed be an abſurdity to ſuppoſe two beginnings of exiſtence, if the identity of a ſubſtance, being, or man were inquired into; but when the inquiry is made into the artificial abſtract idea of perſonality, invented for a particular end, to anſwer which conſciouſneſs only is required, beginning and end of exiſtence are quite out of the queſtion, being foreign to any conſideration of the ſubject.—It may be farther obſerved, that in fact we meet with ſomething of the ſame kind every morning after a total interruption of thought (and I hope, we may by this time in one ſenſe be allowed to term it ſo) during ſound ſleep: nay, if we ſearch the thing narrowly, and may in our turn enter into ſuch minutiæ,

thus

thus much will be implied in the ſucceſſive train of our ideas, even in each hour of the day; that ſame article of ſucceſſion including ſome degree of diſtance between each of them, and conſequently at every ſucceſſive ſtep there is a new production, which may with equal reaſon be ſtyled an interruption of thought, or a new exertion of the thinking power.—But enough of theſe nugæ difficiles. Such changeable, frail creatures then are we through life; yet ſafe in the hand of that unchangeably juſt, wiſe, good, and all-powerful Being, who perfectly underſtands our frame, and will make due allowances for each defect or diſorder incident to it; who at firſt created us out of nothing, and ſtill preſerves us through each ſhifting ſcene, be the revolutions in it never ſo frequent and rapid, and will at length moſt aſſuredly conduct us to immortality. Though in every reſpect we are here "fleeing as it were a ſhadow, and "never continuing in one ſtay," and at laſt ſuffer a ſhort ſeeming pauſe * in our exiſtence, which is in ſcripture termed the "ſleep of death;" yet will he again raiſe us "out of the duſt;" reſtore us to ourſelves, and to our friends †; revive our conſciouſneſs of each paſt act or habit, that may prove of the leaſt moral import; cauſe the "ſecrets of all hearts to be laid open," and

* i. e. a pauſe in the opinion and ſight of other ſentient beings exiſting after our departure, but not a pauſe ſtrictly ſo called to the perſon himſelf, in which there will be an unbroken thread of conſciouſneſs or continued perſonality; time unperceived being no time, time abſolute a fiction, and no idea intervening between the moments of his falling aſleep and waking again, theſe will be to him coincident; which ſhows, that perſonality cannot have two beginnings of exiſtence, though the ſubſtance in which it is found may be perpetually varied, and though ſometimes a leſs number of facts riſe up to his remembrance.

† To one who has not ſeen and felt the unhappy effects of human prejudice and partial judgment in ſuch caſes, it might appear ſtrange that ſo many wiſe and able men ſhould ſtill continue ignorant of this, after all the fulleſt information given us in the following expreſs declaration of that great and good apoſtle St. Paul: "I would not have you to be igno-"rant, brethren, concerning them which are aſleep, that ye ſorrow not "even as others which have no hope. For if we believe that Jeſus died "and roſe again, even ſo them alſo which ſleep in Jeſus, will God bring "with him.—Wherefore comfort one another with theſe words." 1 Theſſ. iv. 13, &c.

either

either reward or puniſh every one according to his works done in the body.

Nor does it imply a plurality of perſons in any man at any time given to charge him with various actions or omiſſions; ſince he may become guilty of a plurality of crimes, as often as he is induced or enabled to reflect upon them, though theſe cannot be crowded into his mind altogether, any more than they could have been ſo committed. Nor therefore need all paſt actions become at once preſent to the mind; which is utterly inconſiſtent with our frame, as it now ſtands, and perhaps with that of every other created being; nor is there a neceſſity for any one idea being always actually in view; which is equally ſo; but only for a capacity of having ſuch brought to mind again, together with a conſciouſneſs of their having been there before, (which diſtinguiſhes them from entirely new ones,) or a poſſibility of recognizing them upon occaſion, at leaſt whenever we are to account for them, as has been frequently obſerved. So far as any ſuch recognition reaches, ſuch perſon is the ſame; when this faculty varies, that muſt vary alſo; and he becomes the ſame, or not, at different times and in divers reſpects, as obſerved likewiſe; at leaſt his accountableneſs muſt vary in proportion, call this perſonality, or what you think fit. Nor does it properly lie in a power of cauſing a return of the ſame idea; but rather in the capacity of receiving it, of re-admitting the ſame conſciouſneſs concerning any paſt thought, action, or perception. Nor is it merely a preſent repreſentation of any ſuch act; but a repreſentation of it as our own, which entitles us to it; one perſon may know or become conſcious of the deeds of another, but this is not knowing that he himſelf was the author of thoſe deeds, which is a contradiction; and to treat him as ſuch upon that account only, would be inverting all rules of right and wrong: and could not therefore be practiſed by either God or man, ſince no end could poſſibly be anſwered by ſuch treatment, as obſerved above.

To dwell upon thoſe ſurpriſing conſequences that might attend the transferring the ſame conſciouſneſs to different beings, or giving the ſame being very different ones, is merely puzzling and perplexing the point,

by

by introducing ſuch confuſions as never really exiſted, and would not alter the true ſtate of the queſtion, if they did.

Such Fairy tales and Arabian transformations, poſſible or impoſſible, can only ſerve to amuſe the fancy, without any ſolid information to the judgment. Theſe flights of mere imagination Mr. Locke generally avoids, though he was here tempted to indulge a few ſuch, in playing with the wild ſuppoſitions of his adverſaries, [v. g. a change of ſouls between Socrates and the mayor of Queenborough, &c.] probably to enliven a dry ſubject, and render it more palatable to the bulk of his readers.

Nor are thoſe caſes of a diſordered imagination in lunacy, or vapours, where perſons are for a time beſide themſelves (as we uſually term it) and may believe ſuch chimerical alterations to befal them, any more to the purpoſe.

But it were endleſs to unravel all the futile ſophiſms and falſe ſuppoſitions, that have been introduced into the preſent queſtion; I have endeavoured to obviate ſuch as appeared moſt material, and account for them; and at the ſame time to inculcate a doctrine, which, though common enough, ſeemed not enough attended to; yet is fundamentally requiſite to a right underſtanding of this intricate ſubject. And if that which is laid down above be a true ſtate of the caſe, all the reſt of our author's plan, [of placing perſonal identity in a continuation of thought *] will drop of courſe. I truſt the reader will make allowance for ſome repetitions, which were left to render things as plain as poſſible, and prevent future ſubterfuges of the like kind; and if the ſubſtance of theſe few haſty obſervations on the firſt part of this ingenious writer's eſſay, prove in the leaſt degree ſatisfactory to himſelf, or have a tendency to enlarge general knowledge, and guard againſt popular errours, I muſt rely upon his candour for excuſing the manner in

* Which diſpoſition, could it be made out, would never anſwer the intent of ſociety, or help to direct us in our duty, the two grand objects which firſt gave birth to perſonality; i. e. to a very partial confined conſideration of that complex idea, ſubſtance, or being, called man.

which

which they are thrown out; and ſhall take the liberty of cloſing them in the form of a ſyllogiſm, which is ſubmitted to his conſideration:

Quo poſito ponitur perſonæ identitas, et quo ſublato tollitur, id perſonalem identitatem conſtituit:

Sed poſitâ conſcientiâ, &c.

Ergo.

APPENDIX.

A friend, well acquainted with the ſubject of the foregoing ſheets, having communicated to me ſome obſervations concerning the uſe of the word Perſon, which came too late to be inſerted in their proper place, I muſt take the liberty of annexing them, though they occaſion ſome more redundancies and repetitions, in order to throw as much light as is poſſible on this very obſcure and long controverted queſtion.

AS Mr. Locke's definition of the term perſon, (chap. xxvii. §. 9.) may poſſibly create ſome difficulty, it will be proper to examine into the ſenſe which ſhould be put upon this word, whenever we inquire after the identity of any man's perſon; which may perhaps at once lead us to a juſt conception of the whole. In the aforementioned ſection, Mr. Locke ſays, that perſon ſtands for "a thinking intelligent being, that has reaſon and reflection," &c. whereas I ſhould imagine, the expreſſion would have been more juſt, had he ſaid that the word perſon ſtands for an attribute, or quality, or character of a thinking intelligent being; in the ſame ſenſe as Tully uſes it, Orat. pro Syll. §. 3. "Hanc mihi tu "ſi, propter res meas geſtas, imponis in omni vitâ meâ "perſonam, Torquate, vehementer erras. Me natura "miſericordem, patria ſeverum; crudelem nec patria, "nec natura eſſe voluit: denique iſtam ipſam perſonam "vehementem et acrem, quam mihi tum tempus et "reſpublica impoſuit, jam voluntas et natura ipſa de-"traxit." It came at laſt to be confounded with, and ſtand for homo gerens perſonam, (Taylor, Civ. L. p. 247, 248.) and in this ſenſe Locke has incautiouſly defined the word. It is attributed alſo to more intelligent beings

beings than one; as by the jeſuits in their declaration prefixed to the third book of Newton, alienam coacti ſumus gerere perſonam. The word perſon then, according to the received ſenſe in all claſſical authors, ſtanding for a certain guiſe, character, quality, i. e. being in fact a mixed mode, or relation, and not a ſubſtance; we muſt next inquire, what particular character or quality it ſtands for in this place, as the ſame man may bear many characters and relations at the ſame, or different times. The anſwer is, that here it ſtands for that particular quality or character, under which a man is conſidered, when he is treated as an intelligent being ſubject to government and laws, and accountable for his actions: i. e. not the man himſelf, but an abſtract conſideration of him, for ſuch and ſuch particular ends: and to inquire after its identity is to inquire, not after the identity of a conſcious being, but after the identity of a quality or attribute of ſuch a conſcious being. All difficulties that relate to a man's forgetting ſome actions, &c. now vaniſh, when perſon is conſidered as a character, and not a ſubſtance, or confounded with homo gerens perſonam: and it amounts to no more than ſaying, a man puts on a maſk—continuing to wear it for ſome time—puts off one maſk and takes another, i. e. appears to have conſciouſneſs—to recollect paſt conſciouſneſſes —does not recollect them, &c. The impropriety conſiſts in ſaying, a man is the ſame perſon with him who did ſuch a fact; which is the ſame as to ſay, a man is blackneſs, guilt, &c. i. e. a mixed mode is predicated of a ſubſtance; whereas it ought to be, in ſtrict propriety of ſpeech, the perſon of the man who did ſuch a fact, is the ſame with the perſon of him, who now ſtands before us; or, in plainer terms, the man who now ſtands before the court is conſcious of the former facts, and is therefore the proper object of puniſhment. It may be obſerved, that the word perſonality is really an abſurd expreſſion: ſince perſon itſelf ſtands for the mixed mode or quality;—and perſonality therefore may be ranked among the old ſcholaſtic terms of corporeity, egoity, tableity, &c. or is even yet more harſh; as mixed modes, ſuch as gratitude, murder, and therefore perſon, cannot be thus re-modified without peculiar abſurdity.

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Quid tam temerarium tamque indignum ſapientis gravitate atque conſtantiâ, quam aut falſum ſentire, aut quod non ſatis exploratè perceptum ſit, & cognitum, ſine ullâ dubitatione defendere?

Cic. de Natura Deorum, lib. 1.

§. 1. THE laſt reſort a man has recourſe to, in the conduct of himſelf, is his underſtanding: for though we diſtinguiſh the faculties of the mind, and give the ſupreme command to the will, as to an agent; yet the truth is, the man, who is the agent, determines himſelf to this, or that, voluntary action, upon ſome precedent knowledge, or appearance of knowledge in the underſtanding. No man ever ſets himſelf about any thing, but upon ſome view, or other, which ſerves him for a reaſon for what he does: and whatſoever faculties he employs, the underſtanding, with ſuch light as it has, well or ill informed, conſtantly leads; and by that light, true or falſe, all his operative powers are directed. The will itſelf, how abſolute and uncontrollable ſoever it may be thought, never fails in its obedience to the dictates of the underſtanding. Temples have their ſacred images, Introduction.

and we ſee what influence they have always had over a great part of mankind. But, in truth, the ideas and images in men's minds are the inviſible powers, that conſtantly govern them; and to theſe they all univerſally pay a ready ſubmiſſion. It is, therefore, of the higheſt concernment, that great care ſhould be taken of the underſtanding, to conduct it right, in the ſearch of knowledge, and in the judgments it makes.

The logic, now in uſe, has ſo long poſſeſſed the chair, as the only art taught in the ſchools, for the direction of the mind, in the ſtudy of the arts and ſciences, that it would perhaps be thought an affectation of novelty to ſuſpect, that rules, that have ſerved the learned world theſe two or three thouſand years, and which, without any complaint of defects, the learned have reſted in, are not ſufficient to guide the underſtanding. And I ſhould not doubt, but this attempt would be cenſured as vanity, or preſumption, did not the great lord Verulam's authority juſtify it; who, not ſervilely thinking learning could not be advanced beyond what it was, becauſe for many ages it had not been, did not reſt in the lazy approbation and applauſe of what was, becauſe it was; but enlarged his mind to what it might be. In his preface to his Novum Organum, concerning logic, he pronounces thus, "Qui ſummas dialecticæ partes tribue-
"runt, atque inde fidiſſima ſcientiis præſidia comparari
"putârunt, veriſſimè et optimè viderunt intellectum
"humanum, ſibi permiſſum, meritò ſuſpectum eſſe de-
"bere. Verum infirmior omninò eſt malo medicina;
"nec ipſa mali expers. Siquidem dialectica, quæ re-
"cepta eſt, licet ad civilia et artes, quæ in ſermone et
"opinione poſitæ ſunt, rectiſſimè adhibeatur; naturæ
"tamen ſubtilitatem longo intervallo non attingit, et
"prenſando quod non capit, ad errores potius ſtabili-
"endos et quaſi figendos, quam ad viam veritati aperi-
"endam valuit."

"They, ſays he, who attributed ſo much to logic,
"perceived very well and truly, that it was not ſafe to
"truſt the underſtanding to itſelf without the guard of
"any rules. But the remedy reached not the evil, but
"became a part of it, for the logic, which took place,

"though

" though it might do well enough in civil affairs, and " the arts, which conſiſted in talk and opinion; yet " comes very far ſhort of ſubtlety, in the real perform- " ances of nature; and, catching at what it cannot " reach, has ſerved to confirm and eſtabliſh errours, " rather than to open a way to truth." And therefore a little after he ſays, " That it is abſolutely neceſſary, " that a better and perfecter uſe and employment of the " mind and underſtanding ſhould be introduced." " Neceſſariò requiritur ut melior et perfectior mentis et " intellectûs humani uſus et adoperatio introducatur."

Parts.

§. 2. There is, it is viſible, great variety in men's underſtandings, and their natural conſtitutions put ſo wide a difference between ſome men, in this reſpect, that art and induſtry would never be able to maſter; and their very natures ſeem to want a foundation to raiſe on it that which other men eaſily attain unto.—Amongſt men of equal education there is great inequality of parts. And the woods of America, as well as the ſchools of Athens, produce men of ſeveral abilities in the ſame kind. Though this be ſo, yet I imagine moſt men come very ſhort of what they might attain unto, in their ſeveral degrees, by a neglect of their underſtandings. A few rules of logic are thought ſufficient, in this caſe, for thoſe who pretend to the higheſt improvement; whereas I think there are a great many natural defects in the underſtanding, capable of amendment; which are overlooked and wholly neglected. And it is eaſy to perceive, that men are guilty of a great many faults, in the exerciſe and improvement of this faculty of the mind, which hinder them in their progreſs, and keep them in ignorance and errour all their lives. Some of them I ſhall take notice of, and endeavour to point out proper remedies for, in the following diſcourſe.

Reaſoning.

§. 3. Beſides the want of determined ideas, and of ſagacity, and exerciſe in finding out, and laying in order, intermediate ideas: there are three miſcarriages, that men are guilty of, in reference to their reaſon, whereby this faculty is hindered in them from that ſervice it might do, and was deſigned for.

And he, that reflects upon the actions and diſcourſes of mankind, will find their defects in this kind very frequent, and very obſervable.

1. The firſt is of thoſe who ſeldom reaſon at all, but do and think according to the example of others, whether parents, neighbours, miniſters, or who elſe they are pleaſed to make choice of to have an implicit faith in, for the ſaving of themſelves the pains and trouble of thinking and examining for themſelves.

2. The ſecond is of thoſe who put paſſion in the place of reaſon, and, being reſolved that ſhall govern their actions and arguments, neither uſe their own, nor hearken to other people's reaſon, any farther than it ſuits their humour, intereſt, or party; and theſe one may obſerve commonly content themſelves with words, which have no diſtinct ideas to them, though in other matters, that they come with an unbiaſſed indifferency to, they want not abilities to talk and hear reaſon, where they have no ſecret inclination, that hinders them from being intractable to it.

3. The third ſort is of thoſe who readily and ſincerely follow reaſon; but, for want of having that, which one may call large, ſound, round-about ſenſe, have not a full view of all that relates to the queſtion, and may be of moment to decide it. We are all ſhort-ſighted, and very often ſee but one ſide of a matter; our views are not extended to all that has a connexion with it. From this defect I think no man is free. We ſee but in part, and we know but in part, and therefore it is no wonder we conclude not right from our partial views. This might inſtruct the proudeſt eſteemer of his own parts, how uſeful it is to talk and conſult with others, even ſuch as come ſhort of him in capacity, quickneſs, and penetration: for, ſince no one ſees all, and we generally have different proſpects of the ſame thing, according to our different, as I may ſay, poſitions to it; it is not incongruous to think, nor beneath any man to try, whether another may not have notions of things, which have eſcaped him, and which his reaſon would make uſe of, if they came into his mind. The faculty of reaſoning ſeldom or never deceives thoſe who truſt to it; its conſequences,

ſequences, from what it builds on, are evident and certain; but that, which it oftenest, if not only, misleads us in, is, that the principles from which we conclude, the grounds upon which we bottom our reaſoning, are but a part, ſomething is left out, which ſhould go into the reckoning, to make it juſt and exact. Here we may imagine a vaſt and almoſt infinite advantage, that angels and ſeparate ſpirits may have over us; who, in their ſeveral degrees of elevation above us, may be endowed with more comprehenſive faculties: and ſome of them, perhaps, having perfect and exact views of all finite beings, that come under their conſideration, can, as it were, in the twinkling of an eye, collect together all their ſcattered and almoſt boundleſs relations. A mind ſo furniſhed, what reaſon has it to acquieſce in the certainty of its concluſions!

In this we may ſee the reaſon, why ſome men of ſtudy and thought, that reaſon right, and are lovers of truth, do make no great advances in their diſcoveries of it. Errour and truth are uncertainly blended in their minds; their deciſions are lame and defective, and they are very often miſtaken in their judgments: the reaſon whereof is, they converſe but with one ſort of men, they read but one ſort of books, they will not come in the hearing but of one ſort of notions: the truth is, they canton out to themſelves a little Goſhen, in the intellectual world, where light ſhines, and as they conclude, day bleſſes them; but the reſt of that vaſt expanſum they give up to night and darkneſs, and ſo avoid coming near it. They have a pretty traffic with known correſpondents, in ſome little creek; within that they confine themſelves, and are dexterous managers enough of the wares and products of that corner, with which they content themſelves, but will not venture out into the great ocean of knowledge, to ſurvey the riches that nature hath ſtored other parts with, no leſs genuine, no leſs ſolid, no leſs uſeful, than what has fallen to their lot, in the admired plenty and ſufficiency of their own little ſpot, which to them contains whatſoever is good in the univerſe. Thoſe who live thus mewed up, within their own contracted territories, and will not look abroad

beyond the boundaries that chance, conceit, or lazineſs, has ſet to their inquiries; but live ſeparate from the notions, diſcourſes, and attainments of the reſt of mankind; may not amiſs be repreſented by the inhabitants of the Marian iſlands; who, being ſeparated, by a large tract of ſea, from all communion with the habitable parts of the earth, thought themſelves the only people of the world. And though the ſtraitneſs of the conveniencies of life amongſt them, had never reached ſo far as to the uſe of fire, till the Spaniards, not many years ſince, in their voyages from Acapulco to Manilla, brought it amongſt them; yet, in the want and ignorance of almoſt all things, they looked upon themſelves, even after that the Spaniards had brought, amongſt them, the notice of variety of nations, abounding in ſciences, arts, and conveniencies of life, of which they knew nothing; they looked upon themſelves, I ſay, as the happieſt and wiſeſt people of the univerſe. But, for all that, nobody, I think, will imagine them deep naturaliſts, or ſolid metaphyſicians; nobody will deem the quickeſt-ſighted amongſt them to have very enlarged views in ethics, or politics; nor can any one allow the moſt capable amongſt them to be advanced ſo far in his underſtanding, as to have any other knowledge, but of the few little things of his and the neighbouring iſlands, within his commerce; but far enough from that comprehenſive enlargement of mind, which adorns a ſoul devoted to truth, aſſiſted with letters, and a free generation of the ſeveral views and ſentiments of thinking men of all ſides. Let not men, therefore, that would have a ſight of what every one pretends to be deſirous to have a ſight of, truth in its full extent, narrow and blind their own proſpect. Let not men think there is no truth, but in the ſciences that they ſtudy, or books that they read. To prejudge other men's notions, before we have looked into them, is not to ſhow their darkneſs, but to put out our own eyes. "Try all things, hold faſt that which is good," is a divine rule, coming from the Father of light and truth; and it is hard to know, what other way men can come at truth, to lay hold of it, if they do not dig and ſearch for it as for gold

gold and hid treaſure; but he that does ſo, muſt have much earth and rubbiſh, before he gets the pure metal; ſand, and pebbles, and droſs uſually lie blended with it, but the gold is never the leſs gold, and will enrich the man that employs his pains to ſeek and ſeparate it. Neither is there any danger he ſhould be deceived by the mixture. Every man carries about him a touch-ſtone, if he will make uſe of it, to diſtinguiſh ſubſtantial gold from ſuperficial glitterings, truth from appearances. And indeed, the uſe and benefit of this touch-ſtone, which is natural reaſon, is ſpoiled and loſt only by aſſuming prejudices, overweening preſumption, and narrowing our minds. The want of exerciſing it, in the full extent of things intelligible, is that which weakens and extinguiſhes this noble faculty in us. Trace it, and ſee whether it be not ſo. The day-labourer in a country-village has commonly but a ſmall pittance of knowledge, becauſe his ideas and notions have been confined to the narrow bounds of a poor converſation and employment: the low mechanic of a country-town does ſomewhat out-do him: porters and coblers of great cities ſurpaſs them. A country gentleman who, leaving Latin and learning in the univerſity, removes thence to his manſion-houſe, and aſſociates with neighbours of the ſame ſtrain, who reliſh nothing but hunting and a bottle; with thoſe alone he ſpends his time, with thoſe alone he converſes, and can away with no company, whoſe diſcourſe goes beyond what claret and diſſoluteneſs inſpire. Such a patriot, formed in this happy way of improvement, cannot fail, as we ſee, to give notable deciſions upon the bench, at quarter-ſeſſions, and eminent proofs of his ſkill in politics, when the ſtrength of his purſe and party have advanced him to a more conſpicuous ſtation. To ſuch a one, truly, an ordinary coffee-houſe gleaner of the city is an arrant ſtateſman, and as much ſuperior to, as a man converſant about Whitehall and the court, is to an ordinary ſhop-keeper. To carry this a little farther: Here is one muffled up in the zeal and infallibility of his own ſect, and will not touch a book, or enter into debate with a perſon that will queſtion any of thoſe things, which to him are

ſacred.

ſacred. Another ſurveys our differences in religion with an equitable and fair indifference, and ſo finds, probably, that none of them are in every thing unexceptionable. Theſe diviſions and ſyſtems were made by men, and carry the mark of fallible on them; and in thoſe, whom he differs from, and till he opened his eyes, had a general prejudice againſt, he meets with more to be ſaid for a great many things, than before he was aware of, or could have imagined. Which of theſe two, now, is moſt likely to judge right, in our religious controverſies, and to be moſt ſtored with truth, the mark all pretend to aim at? All theſe men, that I have inſtanced in, thus unequally furniſhed with truth, and advanced in knowledge, I ſuppoſe of equal natural parts; all the odds between them has been the different ſcope that has been given to their underſtandings to range in, for the gathering up of information, and furniſhing their heads with ideas, and notions and obſervations, whereon to employ their mind, and form their underſtandings.

It will, poſſibly, be objected, "who is ſufficient for all this?" I anſwer, more than can be imagined. Every one knows what his proper buſineſs is, and what, according to the character he makes of himſelf, the world may juſtly expect of him; and, to anſwer that, he will find he will have time and opportunity enough to furniſh himſelf, if he will not deprive himſelf, by a narrowneſs of ſpirit, of thoſe helps that are at hand. I do not ſay, to be a good geographer, that a man ſhould viſit every mountain, river, promontory, and creek, upon the face of the earth, view the buildings, and ſurvey the land every where, as if he were going to make a purchaſe; but yet every one muſt allow that he ſhall know a country better, that makes often ſallies into it, and traverſes up and down, than he that, like a mill-horſe, goes ſtill round in the ſame track, or keeps within the narrow bounds of a field, or two, that delight him. He that will inquire out the beſt books, in every ſcience, and inform himſelf of the moſt material authors of the ſeveral ſects of philoſophy and religion, will not find it an infinite work to acquaint himſelf with the ſentiments of mankind, concerning the moſt weighty and compre-

henſive

henſive ſubjects. Let him exerciſe the freedom of his reaſon and underſtanding in ſuch a latitude as this, and his mind will be ſtrengthened, his capacity enlarged, his faculties improved; and the light, which the remote and ſcattered parts of truth will give to one another, will ſo aſſiſt his judgment, that he will ſeldom be widely out, or miſs giving proof of a clear head, and a comprehenſive knowledge. At leaſt, this is the only way I know, to give the underſtanding its due improvement to the full extent of its capacity, and to diſtinguiſh the two moſt different things I know in the world, a logical chicaner from a man of reaſon. Only he, that would thus give the mind its flight, and ſend abroad his inquiries into all parts after truth, muſt be ſure to ſettle in his head determined ideas of all that he employs his thoughts about, and never fail to judge himſelf, and judge unbiaſſedly, of all that he receives from others, either in their writings or diſcourſes. Reverence, or prejudice, muſt not be ſuffered to give beauty, or deformity, to any of their opinions.

Of practice and habits.

§. 4. We are born with faculties and powers capable almoſt of any thing, ſuch at leaſt as would carry us farther than can eaſily be imagined: but it is only the exerciſe of thoſe powers, which gives us ability and ſkill in any thing, and leads us towards perfection.

A middle-aged ploughman will ſcarce ever be brought to the carriage and language of a gentleman, though his body be as well proportioned, and his joints as ſupple, and his natural parts not any way inferior. The legs of a dancing-maſter, and the fingers of a muſician, fall as it were naturally, without thought, or pains, into regular and admirable motions. Bid them change their parts, and they will in vain endeavour to produce like motions in the members not uſed to them, and it will require length of time and long practice to attain but ſome degrees of a like ability. What incredible and aſtoniſhing actions do we find rope-dancers and tumblers bring their bodies to! Not but that ſundry, in almoſt all manual arts, are as wonderful; but I name thoſe which the world takes notice of for ſuch, becauſe, on that very account,

account, they give money to ſee them. All theſe admired motions, beyond the reach and almoſt conception of unpractiſed ſpectators, are nothing but the mere effects of uſe and induſtry in men, whoſe bodies have nothing peculiar in them from thoſe of the amazed lookers-on.

As it is in the body, ſo it is in the mind; practice makes it what it is, and moſt even of thoſe excellencies, which are looked on as natural endowments, will be found, when examined into more narrowly, to be the product of exerciſe, and to be raiſed to that pitch, only by repeated actions. Some men are remarked for pleaſantneſs in raillery; others for apologues and appoſite diverting ſtories. This is apt to be taken for the effect of pure nature, and that the rather, becauſe it is not got by rules, and thoſe who excel in either of them, never purpoſely ſet themſelves to the ſtudy of it, as an art to be learnt. But yet it is true, that at firſt ſome lucky hit, which took with ſomebody, and gained him commendation, encouraged him to try again, inclined his thoughts and endeavours that way, till at laſt he inſenſibly got a facility in it, without perceiving how; and that is attributed wholly to nature, which was much more the effect of uſe and practice. I do not deny, that natural diſpoſition may often give the firſt riſe to it, but that never carries a man far, without uſe and exerciſe; and it is practice alone, that brings the powers of the mind, as well as thoſe of the body, to their perfection. Many a good poetic vein is buried under a trade, and never produces any thing for want of improvement. We ſee the ways of diſcourſe and reaſoning are very different, even concerning the ſame matter, at court and in the univerſity. And he that will go but from Weſtminſter-hall to the Exchange, will find a different genius and turn in their ways of talking; and yet one cannot think that all whoſe lot fell in the city, were born with different parts from thoſe who were bred at the univerſity, or inns of court.

To what purpoſe all this, but to ſhow that the difference, ſo obſervable in men's underſtandings and parts, does not ariſe ſo much from their natural faculties, as

5 acquired

acquired habits. He would be laughed at, that ſhould go about to make a fine dancer out of a country hedger, at paſt fifty. And he will not have much better ſucceſs, who ſhall endeavour, at that age, to make a man reaſon well, or ſpeak handſomely, who has never been uſed to it, though you ſhould lay before him a collection of all the beſt precepts of logic or oratory. Nobody is made any thing by hearing of rules, or laying them up in his memory; practice muſt ſettle the habit of doing, without reflecting on the rule; and you may as well hope to make a good painter, or muſician, extempore, by a lecture and inſtruction in the arts of muſic and painting, as a coherent thinker, or a ſtrict reaſoner, by a ſet of rules, ſhowing him wherein right reaſoning conſiſts.

This being ſo, that defects and weakneſs in men's underſtandings, as well as other faculties, come from want of a right uſe of their own minds; I am apt to think, the fault is generally miſlaid upon nature, and there is often a complaint of want of parts, when the fault lies in want of a due improvement of them. We ſee men frequently dexterous and ſharp enough in making a bargain, who, if you reaſon with them about matters of religion, appear perfectly ſtupid.

§. 5. I will not here, in what relates to the right conduct and improvement of the underſtanding, repeat again the getting clear and determined ideas, and the employing our thoughts rather about them, than about ſounds put for them; nor of ſettling the ſignification of words, which we uſe with ourſelves, in the ſearch of truth, or with others, in diſcourſing about it. Thoſe hindrances of our underſtandings in the purſuit of knowledge I have ſufficiently enlarged upon, in another place; ſo that nothing more needs here to be ſaid of thoſe matters. Ideas.

§. 6. There is another fault, that ſtops, or miſleads, men in their knowledge, which I have alſo ſpoken ſomething of, but yet is neceſſary to mention here again, that we may examine it to the bottom, and ſee the root it ſprings from; and that is a cuſtom of taking up with principles that are not ſelf-evident, and very often not ſo much as true. It is not unuſual Principles.

unusual to see men rest their opinions upon foundations that have no more certainty and solidity than the propositions built on them, and embraced for their sake. Such foundations are these and the like, viz.—the founders, or leaders, of my party are good men, and therefore their tenets are true;—it is the opinion of a sect that is erroneous, therefore it is false:—it hath been long received in the world, therefore it is true; or—it is new, and therefore false.

These, and many the like, which are by no means the measures of truth and falshood, the generality of men make the standards by which they accustom their understanding to judge. And thus, they falling into a habit of determining of truth, and falshood, by such wrong measures, it is no wonder they should embrace errour for certainty, and be very positive in things they have no ground for.

There is not any, who pretends to the least reason, but, when any of these his false maxims are brought to the test, must acknowledge them to be fallible, and such as he will not allow in those that differ from him; and yet after he is convinced of this, you shall see him go on in the use of them, and, the very next occasion that offers, argue again upon the same grounds. Would one not be ready to think that men are willing to impose upon themselves and mislead their own understandings, who conduct them by such wrong measures, even after they see they cannot be relied on? But yet they will not appear so blameable, as may be thought at first sight: for I think there are a great many, that argue thus in earnest, and do it not to impose on themselves, or others. They are persuaded of what they say, and think there is weight in it, though in a like case they have been convinced there is none; but men would be intolerable to themselves, and contemptible to others, if they should embrace opinions without any ground, and hold what they could give no manner of reason for. True or false, solid or sandy, the mind must have some foundation to rest itself upon; and, as I have remarked in another place, it no sooner entertains any proposition, but it presently hastens to some hypothesis to bottom it on; till

till then it is unquiet and unſettled. So much do our own very tempers diſpoſe us to a right uſe of our underſtandings, if we would follow, as we ſhould, the inclinations of our nature.

In ſome matters of concernment, eſpecially thoſe of religion, men are not permitted to be always wavering and uncertain; they muſt embrace and profeſs ſome tenets or other; and it would be a ſhame, nay a contradiction too heavy for any one's mind to lie conſtantly under, for him to pretend ſeriouſly to be perſuaded of the truth of any religion, and yet not to be able to give any reaſon of his belief, or to ſay any thing for his preference of this to any other opinion: and therefore they muſt make uſe of ſome principles or other, and thoſe can be no other than ſuch as they have and can manage; and to ſay they are not in earneſt perſuaded by them, and do not reſt upon thoſe they make uſe of, is contrary to experience, and to allege that they are not miſled, when we complain they are.

If this be ſo, it will be urged, why then do they not make uſe of ſure and unqueſtionable principles, rather than reſt on ſuch grounds as may deceive them, and will, as is viſible, ſerve to ſupport errour, as well as truth?

To this I anſwer, the reaſon why they do not make uſe of better and ſurer principles, is becauſe they cannot: But this inability proceeds not from want of natural parts (for thoſe few, whoſe caſe that is, are to be excuſed) but for want of uſe and exerciſe. Few men are, from their youth, accuſtomed to ſtrict reaſoning, and to trace the dependence of any truth, in a long train of conſequences, to its remote principles, and to obſerve its connexion; and he that by frequent practice has not been uſed to this employment of his underſtanding, it is no more wonder, that he ſhould not, when he is grown into years, be able to bring his mind to it, than that he ſhould not be, on a ſudden, able to grave, or deſign, dance on the ropes, or write a good hand, who has never practiſed either of them.

Nay, the moſt of men are ſo wholly ſtrangers to this, that they do not ſo much as perceive their want of it; they

they diſpatch the ordinary buſineſs of their callings by rote, as we ſay, as they have learnt it; and if at any time they miſs ſucceſs, they impute it to any thing, rather than want of thought or ſkill; that they conclude (becauſe they know no better) they have in perfection: or, if there be any ſubject that intereſt, or fancy, has recommended to their thoughts, their reaſoning about it is ſtill after their own faſhion; be it better or worſe, it ſerves their turns, and is the beſt they are acquainted with; and, therefore, when they are led by it into miſtakes, and their buſineſs ſucceeds accordingly, they impute it to any croſs accident, or default of others, rather than to their own want of underſtanding; that is what nobody diſcovers, or complains of, in himſelf. Whatſoever made his buſineſs to miſcarry, it was not want of right thought and judgment in himſelf: he ſees no ſuch defect in himſelf, but is ſatisfied that he carries on his deſigns well enough by his own reaſoning, or at leaſt ſhould have done, had it not been for unlucky traverſes not in his power. Thus, being content with this ſhort and very imperfect uſe of his underſtanding, he never troubles himſelf to ſeek out methods of improving his mind, and lives all his life without any notion of cloſe reaſoning, in a continued connexion of a long train of conſequences, from ſure foundations; ſuch as is requiſite for the making out and clearing moſt of the ſpeculative truths moſt men own to believe, and are moſt concerned in. Not to mention here, what I ſhall have occaſion to inſiſt on, by and by, more fully, viz. that in many caſes it is not one ſeries of conſequences will ſerve the turn, but many different and oppoſite deductions muſt be examined and laid together, before a man can come to make a right judgment of the point in queſtion. What then can be expected from men, that neither ſee the want of any ſuch kind of reaſoning, as this; nor, if they do, know how to ſet about it, or could perform it? You may as well ſet a countryman, who ſcarce knows the figures, and never caſt up a ſum of three particulars, to ſtate a merchant's long account, and find the true balance of it.

What

What then ſhould be done in the caſe? I anſwer, we ſhould always remember what I ſaid above, that the faculties of our ſouls are improved and made uſeful to us, juſt after the ſame manner as our bodies are. Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterouſly and with eaſe; let him have ever ſo much vigour and activity, ſuppleneſs and addreſs naturally, yet nobody expects this from him, unleſs he has been uſed to it, and has employed time and pains in faſhioning and forming his hand, or outward parts, to theſe motions. Juſt ſo it is in the mind; would you have a man reaſon well, you muſt uſe him to it betimes, exerciſe his mind in obſerving the connexion of ideas, and following them in train. Nothing does this better than mathematics; which, therefore, I think ſhould be taught all thoſe who have the time and opportunity; not ſo much to make them mathematicians, as to make them reaſonable creatures; for though we all call ourſelves ſo, becauſe we are born to it, if we pleaſe; yet we may truly ſay, nature gives us but the ſeeds of it; we are born to be, if we pleaſe, rational creatures, but it is uſe and exerciſe only that makes us ſo, and we are, indeed, ſo no farther than induſtry and application has carried us. And, therefore, in ways of reaſoning, which men have not been uſed to, he that will obſerve the concluſions they take up, muſt be ſatisfied they are not all rational.

This has been the leſs taken notice of, becauſe every one, in his private affairs, uſes ſome ſort of reaſoning or other, enough to denominate him reaſonable. But the miſtake is, that he that is found reaſonable in one thing, is concluded to be ſo in all, and to think, or to ſay otherwiſe, is thought ſo unjuſt an affront, and ſo ſenſeleſs a cenſure, that nobody ventures to do it. It looks like the degradation of a man below the dignity of his nature. It is true, that he that reaſons well in any one thing, has a mind naturally capable of reaſoning well in others, and to the ſame degree of ſtrength and clearneſs, and poſſibly much greater, had his underſtanding been ſo employed. But it is as true that he who can reaſon well to-day, about one ſort of matters,

cannot at all reaſon to-day about others, though perhaps a year hence he may. But wherever a man's rational faculty fails him, and will not ſerve him to reaſon, there we cannot ſay he is rational, how capable ſoever he may be, by time and exerciſe, to become ſo.

Try in men of low and mean education, who have never elevated their thoughts above the ſpade and the plough, nor looked beyond the ordinary drudgery of a day-labourer. Take the thoughts of ſuch an one, uſed for many years to one track, out of that narrow compaſs he has been, all his life, confined to, you will find him no more capable of reaſoning than almoſt a perfect natural. Some one or two rules, on which their concluſions immediately depend, you will find in moſt men have governed all their thoughts; theſe, true or falſe, have been the maxims they have been guided by: take theſe from them, and they are perfectly at a loſs, their compaſs and pole-ſtar then are gone, and their underſtanding is perfectly at a nonplus; and therefore they either immediately return to their old maxims again, as the foundations of all truth to them, notwithſtanding all that can be ſaid to ſhow their weakneſs; or if they give them up to their reaſons, they, with them, give up all truth and farther inquiry, and think there is no ſuch thing as certainty. For if you would enlarge their thoughts, and ſettle them upon more remote and furer principles, they either cannot eaſily apprehend them; or, if they can, know not what uſe to make of them; for long deductions from remote principles are what they have not been uſed to, and cannot manage.

What then, can grown men never be improved, or enlarged in their underſtandings? I ſay not ſo; but this I think I may ſay, that it will not be done without induſtry and application, which will require more time and pains than grown men, ſettled in their courſe of life, will allow to it, and therefore very ſeldom is done. And this very capacity of attaining it, by uſe and exerciſe only, brings us back to that which I laid down before, that it is only practice that improves our minds as well as bodies, and we muſt expect nothing from our under-

underſtandings, any farther than they are perfected by habits.

The Americans are not all born with worſe underſtandings than the Europeans, though we ſee none of them have ſuch reaches in the arts and ſciences. And, among the children of a poor countryman, the lucky chance of education, and getting into the world, gives one infinitely the ſuperiority in parts over the reſt, who, continuing at home, had continued alſo juſt of the ſame ſize with his brethren.

He that has to do with young ſcholars, eſpecially in mathematics, may perceive how their minds open by degrees, and how it is exerciſe alone that opens them. Sometimes they will ſtick a long time at a part of a demonſtration, not for want of will and application, but really for want of perceiving the connexion of two ideas, that, to one whoſe underſtanding is more exerciſed, is as viſible as any thing can be. The ſame would be with a grown man beginning to ſtudy mathematics, the underſtanding, for want of uſe, often ſticks in every plain way, and he himſelf that is ſo puzzled, when he comes to ſee the connexion, wonders what it was he ſtuck at, in a caſe ſo plain.

Mathematics.

§. 7. I have mentioned mathematics as a way to ſettle in the mind an habit of reaſoning cloſely and in train; not that I think it neceſſary that all men ſhould be deep mathematicians, but that, having got the way of reaſoning, which that ſtudy neceſſarily brings the mind to, they might be able to transfer it to other parts of knowledge, as they ſhall have occaſion. For, in all ſorts of reaſoning, every ſingle argument ſhould be managed as a mathematical demonſtration; the connexion and dependence of ideas ſhould be followed, till the mind is brought to the ſource on which it bottoms, and obſerves the coherence all along, though in proofs of probability one ſuch train is not enough to ſettle the judgment, as in demonſtrative knowledge.

Where a truth is made out by one demonſtration, there needs no farther inquiry: but in probabilities, where there wants demonſtration to eſtabliſh the truth,

beyond doubt, there it is not enough to trace one argument to its ſource, and obſerve its ſtrength and weakneſs, but all the arguments, after having been ſo examined on both ſides, muſt be laid in balance one againſt another, and, upon the whole, the underſtanding determine its aſſent.

This is a way of reaſoning the underſtanding ſhould be accuſtomed to, which is ſo different from what the illiterate are uſed to, that even learned men ſometimes ſeem to have very little or no notion of it. Nor is it to be wondered, ſince the way of diſputing, in the ſchools, leads them quite away from it, by inſiſting on one topical argument, by the ſucceſs of which the truth, or falſhood, of the queſtion is to be determined, and victory adjudged to the opponent, or defendant; which is all one as if one ſhould balance an account by one ſum, charged and diſcharged, when there are an hundred others to be taken into conſideration.

This, therefore, it would be well if men's minds were accuſtomed to, and that early; that they might not erect their opinions upon one ſingle view, when ſo many other are requiſite to make up the account, and muſt come into the reckoning, before a man can form a right judgment. This would enlarge their minds, and give a due freedom to their underſtandings, that they might not be led into errour by preſumption, lazineſs, or precipitancy; for I think nobody can approve ſuch a conduct of the underſtanding, as ſhould miſlead it from truth, though it be ever ſo much in faſhion to make uſe of it.

To this perhaps it will be objected, that to manage the underſtanding as I propoſe, would require every man to be a ſcholar, and to be furniſhed with all the materials of knowledge, and exerciſed in all the ways of reaſoning. To which I anſwer, that it is a ſhame for thoſe that have time, and the means to attain knowledge, to want any helps, or aſſiſtance, for the improvement of their underſtandings, that are to be got; and to ſuch I would be thought here chiefly to ſpeak. Thoſe methinks, who, by the induſtry and parts of their anceſtors, have been ſet free from a conſtant drudgery to their backs and their bellies, ſhould beſtow ſome of their

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ſpare time on their heads, and open their minds, by ſome trials and eſſays, in all the ſorts and matters of reaſoning. I have before mentioned mathematics, wherein algebra gives new helps and views to the underſtanding. If I propoſe theſe, it is not, as I ſaid, to make every man a thorough mathematician, or a deep algebraiſt; but yet I think the ſtudy of them is of infinite uſe, even to grown men; firſt, by experimentally convincing them, that to make any one reaſon well, it is not enough to have parts wherewith he is ſatisfied, and that ſerve him well enough in his ordinary courſe. A man in thoſe ſtudies will ſee, that however good he may think his underſtanding, yet in many things, and thoſe very viſible, it may fail him. This would take off that preſumption that moſt men have of themſelves in this part; and they would not be ſo apt to think their minds wanted no helps to enlarge them, that there could be nothing added to the acuteneſs and penetration of their underſtandings.

Secondly, the ſtudy of mathematics would ſhow them the neceſſity there is in reaſoning, to ſeparate all the diſtinct ideas, and ſee the habitudes that all thoſe concerned in the preſent inquiry have to one another, and to lay by thoſe which relate not to the propoſition in hand, and wholly to leave them out of the reckoning. This is that which, in other ſubjects, beſides quantity, is what is abſolutely requiſite to juſt reaſoning, though in them it is not ſo eaſily obſerved, nor ſo carefully practiſed. In thoſe parts of knowledge where it is thought demonſtration has nothing to do, men reaſon as it were in the lump; and if, upon a ſummary and confuſed view, or upon a partial conſideration, they can raiſe the appearance of a probability, they uſually reſt content; eſpecially if it be in a diſpute where every little ſtraw is laid hold on, and every thing that can but be drawn-in any way to give colour to the argument, is advanced with oſtentation. But that mind is not in a poſture to find the truth, that does not diſtinctly take all the parts aſunder, and, omitting what is not at all to the point, draw a concluſion from the reſult of all the particulars, which any way influence it. There is an-

other no less useful habit to be got by an application to mathematical demonstrations, and that is, of using the mind to a long train of consequences: but having mentioned that already, I shall not again here repeat it.

As to men whose fortunes and time are narrower, what may suffice them is not of that vast extent as may be imagined, and so comes not within the objection.

Nobody is under an obligation to know every thing. Knowledge and science in general, is the business only of those who are at ease and leisure. Those who have particular callings ought to understand them; and it is no unreasonable proposal, nor impossible to be compassed, that they should think and reason right about what is their daily employment. This one cannot think them incapable of, without levelling them with the brutes, and charging them with a stupidity below the rank of rational creatures.

Religion. §. 8. Besides his particular calling for the support of this life, every one has a concern in a future life, which he is bound to look after. This engages his thoughts in religion; and here it mightily lies upon him to understand and reason right. Men, therefore, cannot be excused from understanding the words, and framing the general notions relating to religion, right. The one day of seven, besides other days of rest, allows in the christian world time enough for this (had they no other idle hours) if they would but make use of these vacancies from their daily labour, and apply themselves to an improvement of knowledge with as much diligence as they often do to a great many other things that are useless, and had but those that would enter them according to their several capacities in a right way to this knowledge. The original make of their minds is like that of other men, and they would be found not to want understanding fit to receive the knowledge of religion, if they were a little encouraged and helped in it, as they should be. For there are instances of very mean people, who have raised their minds to a great sense and understanding of religion: and though these have not been so frequent as could be wished; yet they are enough to clear that condition of life

life from a necessity of gross ignorance, and to show that more might be brought to be rational creatures and christians (for they can hardly be thought really to be so, who, wearing the name, know not so much as the very principles of that religion) if due care were taken of them. For, if I mistake not, the peasantry lately in France (a rank of people under a much heavier pressure of want and poverty, than the day-labourers in England) of the reformed religion understood it much better, and could say more for it, than those of a higher condition among us.

But if it shall be concluded that the meaner sort of people must give themselves up to brutish stupidity in the things of their nearest concernment, which I see no reason for, this excuses not those of a freer fortune and education, if they neglect their understandings, and take no care to employ them as they ought, and set them right in the knowledge of those things for which principally they were given them. At least those, whose plentiful fortunes allow them the opportunities and helps of improvements, are not so few, but that it might be hoped great advancements might be made in knowledge of all kinds, especially in that of the greatest concern and largest views, if men would make a right use of their faculties, and study their own understandings.

§. 9. Outward corporeal objects, that constantly importune our senses and captivate our appetites, fail not to fill our heads with lively and lasting ideas of that kind. Here the mind needs not to be set upon getting greater store; they offer themselves fast enough, and are usually entertained in such plenty, and lodged so carefully, that the mind wants room, or attention, for others that it has more use and need of. To fit the understanding, therefore, for such reasoning as I have been above speaking of, care should be taken to fill it with moral and more abstract ideas; for these not offering themselves to the senses, but being to be framed to the understanding, people are generally so neglectful of a faculty they are apt to think wants nothing, that I fear most men's minds are more unfurnished with such ideas than is imagined. They often use the words, and Ideas.

how can they be suspected to want the ideas? What I have said in the third book of my essay, will excuse me from any other answer to this question. But to convince people of what moment it is to their understandings to be furnished with such abstract ideas, steady and settled in them, give me leave to ask, how any one shall be able to know whether he be obliged to be just, if he has not established ideas in his mind of obligation and of justice; since knowledge consists in nothing but the perceived agreement or disagreement of those ideas? and so of all others the like, which concern our lives and manners. And if men do find a difficulty to see the agreement or disagreement of two angles, which lie before their eyes, unalterable in a diagram; how utterly impossible will it be to perceive it in ideas that have no other sensible object to represent them to the mind but sounds; with which they have no manner of conformity, and therefore had need to be clearly settled in the mind themselves, if we would make any clear judgment about them? This, therefore, is one of the first things the mind should be employed about, in the right conduct of the understanding, without which it is impossible it should be capable of reasoning right about those matters. But in these, and all other ideas, care must be taken that they harbour no inconsistencies, and that they have a real existence where real existence is supposed; and are not mere chimeras with a supposed existence.

Prejudice. §. 10. Every one is forward to complain of the prejudices that mislead other men or parties, as if he were free, and had none of his own. This being objected on all sides, it is agreed, that it is a fault and an hindrance to knowledge. What now is the cure? No other but this, that every man should let alone other prejudices, and examine his own. Nobody is convinced of his by the accusation of another; he recriminates by the same rule, and is clear. The only way to remove this great cause of ignorance and errour out of the world, is, for every one impartially to examine himself. If others will not deal fairly with their own minds, does that make my errours truths? or ought it to make me in love with them, and willing to impose

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on myſelf? If others love cataracts in their eyes, ſhould that hinder me from couching of mine as ſoon as I can? Every one declares againſt blindneſs, and yet who almoſt is not fond of that which dims his ſight, and keeps the clear light out of his mind, which ſhould lead him into truth and knowledge? Falſe or doubtful poſitions, relied upon as unqueſtionable maxims, keep thoſe in the dark from truth who build on them. Such are uſually the prejudices imbibed from education, party, reverence, faſhion, intereſt, &c. This is the mote which every one ſees in his brother's eye, but never regards the beam in his own. For who is there almoſt that is ever brought fairly to examine his own principles, and ſee whether they are ſuch as will bear the trial? But yet this ſhould be one of the firſt things every one ſhould ſet about, and be ſcrupulous in, who would rightly conduct his underſtanding in the ſearch of truth and knowledge.

To thoſe who are willing to get rid of this great hindrance of knowledge, (for to ſuch only I write) to thoſe who would ſhake off this great and dangerous impoſtor, prejudice, who dreſſes up falſhood in the likeneſs of truth, and ſo dexterouſly hoodwinks men's minds, as to keep them in the dark, with a belief that they are more in the light than any that do not ſee with their eyes; I ſhall offer this one mark whereby prejudice may be known. He that is ſtrongly of any opinion, muſt ſuppoſe (unleſs he be ſelf-condemned) that his perſuaſion is built upon good grounds; and that his aſſent is no greater than what the evidence of the truth he holds forces him to; and that they are arguments, and not inclination, or fancy, that make him ſo confident and poſitive in his tenets. Now, if after all his profeſſion, he cannot bear any oppoſition to his opinion, if he cannot ſo much as give a patient hearing, much leſs examine and weigh the arguments on the other ſide, does he not plainly confeſs it is prejudice governs him? and it is not the evidence of truth, but ſome lazy anticipation, ſome beloved preſumption, that he deſires to reſt undiſturbed in. For, if what he holds be, as he gives out, well fenced with evidence, and he ſees it to be true, what need he fear to put it to the proof? If his opinion be

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ſettled upon a firm foundation, if the arguments that ſupport it, and have obtained his aſſent, be clear, good, and convincing, why ſhould he be ſhy to have it tried whether they be proof or not? He whoſe aſſent goes beyond this evidence, owes this exceſs of his adherence only to prejudice, and does in effect own it, when he refuſes to hear what is offered againſt it; declaring thereby, that it is not evidence he ſeeks, but the quiet enjoyment of the opinion he is fond of, with a forward condemnation of all that may ſtand in oppoſition to it, unheard and unexamined; which, what is it but prejudice? "qui æquum ſtatuerit, parte inauditâ alterâ, etiamſi æquum ſtatuerit, haud æquus fuerit." He that would acquit himſelf in this caſe as a lover of truth, not giving way to any pre-occupation, or bias, that may miſlead him, muſt do two things that are not very common, nor very eaſy.

Indifferency. §. 11. Firſt, he muſt not be in love with any opinion, or wiſh it to be true, till he knows it to be ſo, and then he will not need to wiſh it; for nothing that is falſe can deſerve our good wiſhes, nor a deſire that it ſhould have the place and force of truth; and yet nothing is more frequent than this. Men are fond of certain tenets upon no other evidence but reſpect and cuſtom, and think they muſt maintain them, or all is gone; though they have never examined the ground they ſtand on, nor have ever made them out to themſelves, or can make them out to others: we ſhould contend earneſtly for the truth, but we ſhould firſt be ſure that it is truth, or elſe we fight againſt God, who is the God of truth, and do the work of the devil, who is the father and propagator of lyes; and our zeal, though ever ſo warm, will not excuſe us, for this is plainly prejudice.

Examine. §. 12. Secondly, he muſt do that which he will find himſelf very averſe to, as judging the thing unneceſſary, or himſelf incapable of doing it. He muſt try whether his principles be certainly true, or not, and how far he may ſafely rely upon them. This, whether fewer have the heart or the ſkill to do, I ſhall not determine; but this, I am ſure, is that which

which every one ought to do, who professes to love truth, and would not impose upon himself; which is a surer way to be made a fool of, than by being exposed to the sophistry of others. The disposition to put any cheat upon ourselves works constantly, and we are pleased with it, but are impatient of being bantered or misled by others. The inability I here speak of, is not any natural defect that makes men incapable of examining their own principles. To such, rules of conducting their understandings are useless; and that is the case of very few. The great number is of those whom the ill habit of never exerting their thoughts has disabled; the powers of their minds are starved by disuse, and have lost that reach and strength which nature fitted them to receive from exercise. Those who are in a condition to learn the first rules of plain arithmetic, and could be brought to cast up an ordinary sum, are capable of this, if they had but accustomed their minds to reasoning: but they that have wholly neglected the exercise of their understandings in this way, will be very far, at first, from being able to do it, and as unfit for it as one unpractised in figures to cast up a shop-book, and, perhaps, think it as strange to be set about it. And yet it must nevertheless be confessed to be a wrong use of our understandings, to build our tenets (in things where we are concerned to hold the truth) upon principles that may lead us into errour. We take our principles at hap-hazard, upon trust, and without ever having examined them, and then believe a whole system, upon a presumption that they are true and solid; and what is all this, but childish, shameful, senseless credulity?

In these two things, viz. an equal indifferency for all truth; I mean the receiving it, the love of it, as truth, but not loving it for any other reason, before we know it to be true; and in the examination of our principles, and not receiving any for such, nor building on them, till we are fully convinced, as rational creatures, of their solidity, truth, and certainty; consists that freedom of the understanding which is necessary to a rational creature, and without which it is not truly an understanding. It is conceit, fancy, extravagance, any thing rather

than

than underſtanding, if it muſt be under the conſtraint of receiving and holding opinions by the authority of any thing but their own, not fancied, but perceived, evidence. This was rightly called impoſition, and is of all other the worſt and moſt dangerous ſort of it. For we impoſe upon ourſelves, which is the ſtrongeſt impoſition of all others; and we impoſe upon ourſelves in that part which ought with the greateſt care to be kept free from all impoſition. The world is apt to caſt great blame on thoſe who have an indifferency for opinions, eſpecially in religion. I fear this is the foundation of great errour and worſe conſequences. To be indifferent which of two opinions is true, is the right temper of the mind that preſerves it from being impoſed on, and diſpoſes it to examine with that indifferency, till it has done its beſt to find the truth, and this is the only direct and ſafe way to it. But to be indifferent whether we embrace falſhood or truth, is the great road to errour. Thoſe who are not indifferent which opinion is true, are guilty of this; they ſuppoſe, without examining, that what they hold is true, and then think they ought to be zealous for it. Thoſe, it is plain by their warmth and eagerneſs, are not indifferent for their own opinions, but methinks are very indifferent whether they be true or falſe; ſince they cannot endure to have any doubts raiſed, or objections made againſt them; and it is viſible they never have made any themſelves, and ſo never having examined them, know not, nor are concerned, as they ſhould be, to know whether they be true or falſe.

Theſe are the common and moſt general miſcarriages which I think men ſhould avoid, or rectify, in a right conduct of their underſtandings, and ſhould be particularly taken care of in education. The buſineſs whereof, in reſpect of knowledge, is not, as I think, to perfect a learner in all or any one of the ſciences, but to give his mind that freedom, that diſpoſition, and thoſe habits, that may enable him to attain any part of knowledge he ſhall apply himſelf to, or ſtand in need of, in the future courſe of his life.

This,

This, and this only, is well principling, and not the inſtilling a reverence and veneration for certain dogmas, under the ſpecious title of principles, which are often ſo remote from that truth and evidence which belongs to principles, that they ought to be rejected, as falſe and erroneous; and often cauſe men ſo educated, when they come abroad into the world, and find they cannot maintain the principles ſo taken up and reſted in, to caſt off all principles, and turn perfect ſceptics, regardleſs of knowledge and virtue.

There are ſeveral weakneſſes and defects in the underſtanding, either from the natural temper of the mind, or ill habits taken up, which hinder it in its progreſs to knowledge. Of theſe, there are as many, poſſibly, to be found, if the mind were thoroughly ſtudied, as there are diſeaſes of the body, each whereof clogs and diſables the underſtanding to ſome degree, and therefore deſerves to be looked after and cured. I ſhall ſet down ſome few to excite men, eſpecially thoſe who make knowledge their buſineſs, to look into themſelves, and obſerve whether they do not indulge ſome weakneſſes, allow ſome miſcarriages in the management of their intellectual faculty, which is prejudicial to them in the ſearch of truth.

Obſervations.

§. 13. Particular matters of fact are the undoubted foundations on which our civil and natural knowledge is built: the benefit the underſtanding makes of them, is to draw from them concluſions, which may be as ſtanding rules of knowledge, and conſequently of practice. The mind often makes not that benefit it ſhould of the information it receives from the accounts of civil or natural hiſtorians, by being too forward or too ſlow in making obſervations on the particular facts recorded in them.

There are thoſe who are very aſſiduous in reading, and yet do not much advance their knowledge by it. They are delighted with the ſtories that are told, and perhaps can tell them again, for they make all they read nothing but hiſtory to themſelves; but not reflecting on it, not making to themſelves obſervations from what they read, they are very little improved by all that crowd of particulars,

ticulars, that either paſs through, or lodge themſelves in their underſtandings. They dream on in a conſtant courſe of reading and cramming themſelves; but not digeſting any thing, it produces nothing but an heap of crudities.

If their memories retain well, one may ſay, they have the materials of knowledge; but, like thoſe for building, they are of no advantage, if there be no other uſe made of them but to let them lie heaped up together. Oppoſite to theſe, there are others who loſe the improvement they ſhould make of matters of fact by a quite contrary conduct. They are apt to draw general concluſions, and raiſe axioms from every particular they meet with. Theſe make as little true benefit of hiſtory as the other; nay, being of forward and active ſpirits, receive more harm by it; it being of worſe conſequence to ſteer one's thoughts by a wrong rule, than to have none at all; errour doing to buſy men much more harm, than ignorance to the ſlow and ſluggiſh. Between theſe, thoſe ſeem to do beſt, who taking material and uſeful hints, ſometimes from ſingle matters of fact, carry them in their minds to be judged of, by what they ſhall find in hiſtory, to confirm or reverſe their imperfect obſervations; which may be eſtabliſhed into rules fit to be relied on, when they are juſtified by a ſufficient and wary induction of particulars. He that makes no ſuch reflections on what he reads, only loads his mind with a rhapſody of tales, fit, in winter-nights, for the entertainment of others: and he that will improve every matter of fact into a maxim, will abound in contrary obſervations, that can be of no other uſe but to perplex and pudder him, if he compares them; or elſe to miſguide him, if he gives himſelf up to the authority of that, which for its novelty, or for ſome other fancy, beſt pleaſes him.

Bias. §. 14. Next to theſe, we may place thoſe who ſuffer their own natural tempers and paſſions they are poſſeſſed with, to influence their judgments, eſpecially of men and things, that may any way relate to their preſent circumſtances and intereſt. Truth is all ſimple, all pure, will bear no mixture of any thing

else with it. It is rigid and inflexible to any bye interests; and so should the understanding be, whose use and excellency lies in conforming itself to it. To think of every thing just as it is in itself, is the proper business of the understanding, though it be not that which men always imploy it to. This all men, at first hearing, allow, is the right use every one should make of his understanding. Nobody will be at such an open defiance with common sense, as to profess that we should not endeavour to know, and think of things as they are in themselves; and yet there is nothing more frequent than to do the contrary; and men are apt to excuse themselves; and think they have reason to do so, if they have but a pretence that it is for God, or a good cause; that is, in effect, for themselves, their own persuasion, or party: for those in their turns the several sects of men, especially in matters of religion, entitle God and a good cause. But God requires not men to wrong or misuse their faculties for him, nor to lye to others, or themselves, for his sake; which they purposely do, who will not suffer their understandings to have right conceptions of the things proposed to them, and designedly restrain themselves from having just thoughts of every thing, as far as they are concerned to inquire. And as for a good cause, that needs not such ill helps; if it be good, truth will support it, and it has no need of fallacy or falshood.

Arguments.

§. 15. Very much of kin to this, is the hunting after arguments to make good one side of a question, and wholly to neglect and refuse those which favour the other side. What is this but wilfully to misguide the understanding, and is so far from giving truth its due value, that it wholly debases it: espouse opinions that best comport with their power, profit, or credit, and then seek arguments to support them? Truth light upon this way, is of no more avail to us than error; for what is so taken up by us may be false as well as true, and he has not done his duty who has thus stumbled upon truth in his way to preferment.

There is another, but more innocent way of collecting arguments, very familiar among bookish men, which is

is to furniſh themſelves with the arguments they meet with pro and con in the queſtions they ſtudy. This helps them not to judge right, nor argue ſtrongly; but only to talk copiouſly on either ſide, without being ſteady and ſettled in their own judgments: For ſuch arguments gathered from other men's thoughts, floating only in the memory, are there ready, indeed, to ſupply copious talk with ſome appearance of reaſon, but are far from helping us to judge right. Such variety of arguments only diſtract the underſtanding that relies on them, unleſs it has gone farther than ſuch a ſuperficial way of examining; this is to quit truth for appearance, only to ſerve our vanity. The ſure and only way to get true knowledge, is to form in our minds clear ſettled notions of things, with names annexed to thoſe determined ideas. Theſe we are to conſider, with their ſeveral relations and habitudes, and not amuſe ourſelves with floating names, and words of indetermined ſignification, which we can uſe in ſeveral ſenſes to ſerve a turn. It is in the perception of the habitudes and reſpects our ideas have one to another, that real knowledge conſiſts; and when a man once perceives how far they agree or diſagree one with another, he will be able to judge of what other people ſay, and will not need to be led by the arguments of others, which are many of them nothing but plauſible ſophiſtry. This will teach him to ſtate the queſtion right, and ſee whereon it turns; and thus he will ſtand upon his own legs, and know by his own underſtanding. Whereas by collecting and learning arguments by heart, he will be but a retainer to others; and when any one queſtions the foundations they are built upon, he will be at a nonplus, and be fain to give up his implicit knowledge.

Haſte. §. 16. Labour for labour-ſake is againſt nature. The underſtanding, as well as all the other faculties, chooſes always the ſhorteſt way to its end, would preſently obtain the knowledge it is about, and then ſet upon ſome new inquiry. But this, whether lazineſs or haſte, often miſleads it, and makes it content itſelf with improper ways of ſearch, and ſuch as will not ſerve the turn: ſometimes it reſts upon teſ-

timony, when teſtimony of right has nothing to do, becauſe it is eaſier to believe than to be ſcientifically inſtructed: ſometimes it contents itſelf with one argument, and reſts ſatisfied with that, as it were a demonſtration, whereas the thing under proof is not capable of demonſtration, and therefore muſt be ſubmitted to the trial of probabilities, and all the material arguments pro and con be examined and brought to a balance. In ſome caſes the mind is determined by probable topics in inquiries where demonſtration may be had. All theſe, and ſeveral others, which lazineſs, impatience, cuſtom, and want of uſe and attention lead men into, are miſapplications of the underſtanding in the ſearch of truth. In every queſtion the nature and manner of the proof it is capable of ſhould be conſidered, to make our inquiry ſuch as it ſhould be. This would ſave a great deal of frequently miſemployed pains, and lead us ſooner to that diſcovery and poſſeſſion of truth we are capable of. The multiplying variety of arguments, eſpecially frivolous ones, ſuch as are all that are merely verbal, is not only loſt labour, but cumbers the memory to no purpoſe, and ſerves only to hinder it from ſeizing and holding of the truth in all thoſe caſes which are capable of demonſtration. In ſuch a way of proof the truth and certainty is ſeen, and the mind fully poſſeſſes itſelf of it; when in the other way of aſſent it only hovers about it, is amuſed with uncertainties. In this ſuperficial way, indeed, the mind is capable of more variety of plauſible talk, but is not enlarged, as it ſhould be, in its knowledge. It is to this ſame haſte and impatience of the mind alſo, that a not due tracing of the arguments to their true foundation is owing; men ſee a little, preſume a great deal, and ſo jump to the concluſion. This is a ſhort way to fancy and conceit, and (if firmly embraced) to opinionatry, but is certainly the fartheſt way about to knowledge. For he that will know, muſt by the connexion of the proofs ſee the truth, and the ground it ſtands on; and therefore, if he has for haſte ſkipt over what he ſhould have examined, he muſt begin and go over all again, or elſe he will never come to knowledge.

Desultory. §. 17. Another fault of as ill consequence as this, which proceeds also from laziness, with a mixture of vanity, is the skipping from one sort of knowledge to another. Some men's tempers are quickly weary of any one thing. Constancy and assiduity is what they cannot bear: the same study long continued in, is as intolerable to them, as the appearing long in the same clothes, or fashion, is to a court-lady.

Smattering. §. 18. Others, that they may seem universally knowing, get a little smattering in every thing. Both these may fill their heads with superficial notions of things, but are very much out of the way of attaining truth or knowledge.

Universality. §. 19. I do not here speak against the taking a taste of every sort of knowledge; it is certainly very useful and necessary to form the mind; but then it must be done in a different way, and to a different end. Not for talk and vanity to fill the head with shreds of all kinds, that he who is possessed of such a frippery, may be able to match the discourses of all he shall meet with, as if nothing could come amiss to him; and his head was so well stored a magazine, that nothing could be proposed which he was not master of, and was readily furnished to entertain any one on. This is an excellency, indeed, and a great one too, to have a real and true knowledge in all, or most of the objects of contemplation. But it is what the mind of one and the same man can hardly attain unto; and the instances are so few of those who have, in any measure, approached towards it, that I know not whether they are to be proposed as examples in the ordinary conduct of the understanding. For a man to understand fully the business of his particular calling in the commonwealth, and of religion, which is his calling as he is a man in the world, is usually enough to take up his whole time; and there are few that inform themselves in these, which is every man's proper and peculiar business, so to the bottom as they should do. But though this be so, and there are very few men that extend their thoughts towards universal knowledge; yet I do not doubt, but if

if the right way were taken, and the methods of inquiry were ordered as they ſhould be, men of little buſineſs and great leiſure might go a great deal farther in it than is uſually done. To turn to the buſineſs in hand; the end and uſe of a little inſight in thoſe parts of knowledge, which are not a man's proper buſineſs, is to accuſtom our minds to all ſorts of ideas, and the proper ways of examining their habitudes and relations. This gives the mind a freedom, and the exerciſing the underſtanding in the ſeveral ways of inquiry and reaſoning, which the moſt ſkilful have made uſe of, teaches the mind ſagacity and warineſs, and a ſuppleneſs to apply itſelf more cloſely and dexterouſly to the bents and turns of the matter in all its reſearches. Beſides, this univerſal taſte of all the ſciences, with an indifferency before the mind is poſſeſſed with any one in particular, and grown into love and admiration of what is made its darling, will prevent another evil, very commonly to be obſerved in thoſe who have from the beginning been ſeaſoned only by one part of knowledge. Let a man be given up to the contemplation of one ſort of knowledge, and that will become every thing. The mind will take ſuch a tincture from a familiarity with that object, that every thing elſe, how remote ſoever, will be brought under the ſame view. A metaphyſician will bring plowing and gardening immediately to abſtract notions: the hiſtory of nature ſhall ſignify nothing to him. An alchemiſt, on the contrary, ſhall reduce divinity to the maxims of his laboratory: explain morality by ſal, ſulphur and mercury; and allegoriſe the ſcripture itſelf, and the ſacred myſteries thereof, into the philoſopher's ſtone. And I heard once a man, who had a more than ordinary excellency in muſic, ſeriouſly accommodate Moſes's ſeven days of the firſt week to the notes of muſic, as if from thence had been taken the meaſure and method of the creation. It is of no ſmall conſequence to keep the mind from ſuch a poſſeſſion, which I think is beſt done by giving it a fair and equal view of the whole intellectual world, wherein it may ſee the order, rank, and beauty of the whole, and give a juſt allow-

ance to the diſtinct provinces of the ſeveral ſciences in the due order and uſefulneſs of each of them.

If this be that which old men will not think neceſſary, nor be eaſily brought to; it is fit, at leaſt, that it ſhould be practiſed in the breeding of the young. The buſineſs of education, as I have already obſerved, is not, as I think, to make them perfect in any one of the ſciences, but ſo to open and diſpoſe their minds, as may beſt make them capable of any, when they ſhall apply themſelves to it. If men are, for a long time, accuſtomed only to one ſort or method of thoughts, their minds grow ſtiff in it, and do not readily turn to another. It is, therefore, to give them this freedom, that I think they ſhould be made to look into all ſorts of knowledge, and exerciſe their underſtandings in ſo wide a variety and ſtock of knowledge. But I do not propoſe it as a variety and ſtock of knowledge, but a variety and freedom of thinking, as an increaſe of the powers and activity of the mind, not as an enlargement of its poſſeſſions.

Reading. §. 20. This is that which I think great readers are apt to be miſtaken in. Thoſe who have read of every thing, are thought to underſtand every thing too; but it is not always ſo. Reading furniſhes the mind only with materials of knowledge, it is thinking makes what we read ours. We are of the ruminating kind, and it is not enough to cram ourſelves with a great load of collections; unleſs we chew them over again, they will not give us ſtrength and nouriſhment. There are, indeed, in ſome writers viſible inſtances of deep thoughts, cloſe and acute reaſoning, and ideas well purſued. The light theſe would give would be of great uſe, if their reader would obſerve and imitate them; all the reſt at beſt are but particulars fit to be turned into knowledge; but that can be done only by our own meditation, and examining the reach, force and coherence of what is ſaid; and then, as far as we apprehend and ſee the connexion of ideas, ſo far it is ours; without that, it is but ſo much looſe matter floating in our brain. The memory may be ſtored, but the judgment is little better, and the ſtock of knowledge not

not increaſed, by being able to repeat what others have ſaid, or produce the arguments we have found in them. Such a knowledge as this is but knowledge by hear-ſay, and the oſtentation of it is at beſt but talking by rote, and very often upon weak and wrong principles. For all that is to be found in books, is not built upon true foundations, nor always rightly deduced from the principles it is pretended to be built on. Such an examen as is requiſite to diſcover that, every reader's mind is not forward to make; eſpecially in thoſe who have given themſelves up to a party, and only hunt for what they can ſcrape together, that may favour and ſupport the tenets of it. Such men wilfully exclude themſelves from truth, and from all true benefit to be received by reading. Others of more indifferency often want attention and induſtry. The mind is backward in itſelf to be at the pains to trace every argument to its original, and to ſee upon what baſis it ſtands, and how firmly; but yet it is this that gives ſo much the advantage to one man more than another in reading. The mind ſhould by ſevere rules be tyed down to this, at firſt, uneaſy taſk; uſe and exerciſe will give it facility. So that thoſe who are accuſtomed to it, readily, as it were with one caſt of the eye, take a view of the argument, and preſently, in moſt caſes, ſee where it bottoms. Thoſe who have got this faculty, one may ſay, have got the true key of books, and the clue to lead them through the mizmaze of variety of opinions and authors to truth and certainty. This young beginners ſhould be entered in, and ſhowed the uſe of, that they might profit by their reading. Thoſe who are ſtrangers to it, will be apt to think it too great a clog in the way of men's ſtudies, and they will ſuſpect they ſhall make but ſmall progreſs, if, in the books they read, they muſt ſtand to examine and unravel every argument, and follow it ſtep by ſtep up to its original.

I anſwer, this is a good objection, and ought to weigh with thoſe whoſe reading is deſigned for much talk and little knowledge, and I have nothing to ſay to it. But I am here inquiring into the conduct of the underſtanding in its progreſs towards knowledge; and to thoſe

who aim at that, I may ſay, that he who fair and ſoftly goes ſteadily forward in a courſe that points right, will ſooner be at his journey's end, than he that runs after every one he meets, though he gallop all day full-ſpeed.

To which let me add, that this way of thinking on, and profiting by, what we read, will be a clog and rub to any one only in the beginning: when cuſtom and exerciſe has made it familiar, it will be diſpatched, on moſt occaſions, without reſting or interruption in the courſe of our reading. The motions and views of a mind exerciſed that way, are wonderfully quick; and a man uſed to ſuch ſort of reflections, ſees as much at one glimpſe as would require a long diſcourſe to lay before another, and make out in an entire and gradual deduction. Beſides that, when the firſt difficulties are over, the delight and ſenſible advantage it brings, mightily encourages and enlivens the mind in reading, which without this is very improperly called ſtudy.

Intermediate principles.

§. 21. As an help to this, I think it may be propoſed, that for the ſaving the long progreſſion of the thoughts to remote and firſt principles in every caſe, the mind ſhould provide it ſeveral ſtages; that is to ſay, intermediate principles, which it might have recourſe to in the examining thoſe poſitions that come in its way. Theſe, though they are not ſelf-evident principles, yet if they have been made out from them by a wary and unqueſtionable deduction, may be depended on as certain and infallible truths, and ſerve as unqueſtionable truths to prove other points depending on them by a nearer and ſhorter view than remote and general maxims. Theſe may ſerve as land-marks to ſhow what lies in the direct way of truth, or is quite beſides it. And thus mathematicians do, who do not in every new problem run it back to the firſt axioms, through all the whole train of intermediate propoſitions. Certain theorems, that they have ſettled to themſelves upon ſure demonſtration, ſerve to reſolve to them multitudes of propoſitions which depend on them, and are as firmly made out from thence, as if the mind went afreſh over every link of the whole chain that ties them to firſt ſelf-evident principles. Only in other

ſciences great care is to be taken, that they eſtabliſh thoſe intermediate principles with as much caution, exactneſs, and indifferency, as mathematicians uſe in the ſettling any of their great theorems. When this is not done, but men take up the principles in this or that ſcience upon credit, inclination, intereſt, &c. in haſte, without due examination, and moſt unqueſtionable proof, they lay a trap for themſelves, and, as much as in them lies, captivate their underſtandings to miſtake, falſhood and errour.

Partiality.

§. 22. As there is a partiality to opinions, which, as we have already obſerved, is apt to miſlead the underſtanding; ſo there is often a partiality to ſtudies, which is prejudicial alſo to knowledge and improvement. Thoſe ſciences which men are particularly verſed in, they are apt to value and extol, as if that part of knowledge which every one has acquainted himſelf with, were that alone which was worth the having, and all the reſt were idle and empty amuſements, comparatively of no uſe or importance. This is the effect of ignorance, and not knowledge, the being vainly puffed up with a flatulency, ariſing from a weak and narrow comprehenſion. It is not amiſs that every one ſhould reliſh the ſcience that he has made his peculiar ſtudy; a view of its beauties, and a ſenſe of its uſefulneſs, carries a man on with the more delight and warmth in the purſuit and improvement of it. But the contempt of all other knowledge, as if it were nothing in compariſon of law or phyſic, of aſtronomy or chemiſtry, or perhaps ſome yet meaner part of knowledge, wherein I have got ſome ſmattering, or am ſomewhat advanced, is not only the mark of a vain or little mind; but does this prejudice in the conduct of the underſtanding, that it coops it up within narrow bounds, and hinders it from looking abroad into other provinces of the intellectual world, more beautiful poſſibly, and more fruitful than that which it had, till then, laboured in; wherein it might find, beſides new knowledge, ways or hints whereby it might be enabled the better to cultivate its own.

Theology. §. 23. There is, indeed, one ſcience (as they are now diſtinguiſhed) incomparably above all the reſt, where it is not by corruption narrowed into a trade or faction, for mean or ill ends, and ſecular intereſts; I mean theology, which, containing the knowledge of God and his creatures, our duty to him and our fellow-creatures, and a view of our preſent and future ſtate, is the comprehenſion of all other knowledge directed to its true end; i. e. the honour and veneration of the Creator, and the happineſs of mankind. This is that noble ſtudy which is every man's duty, and every one that can be called a rational creature is capable of. The works of nature, and the words of revelation, diſplay it to mankind in characters ſo large and viſible, that thoſe who are not quite blind may in them read and ſee the firſt principles and moſt neceſſary parts of it; and from thence, as they have time and induſtry, may be enabled to go on to the more abſtruſe parts of it, and penetrate into thoſe infinite depths filled with the treaſures of wiſdom and knowledge. This is that ſcience which would truly enlarge men's minds, were it ſtudied, or permitted to be ſtudied, every where, with that freedom, love of truth and charity which it teaches, and were not made, contrary to its nature, the occaſion of ſtrife, faction, malignity, and narrow impoſitions. I ſhall ſay no more here of this, but that it is undoubtedly a wrong uſe of my underſtanding, to make it the rule and meaſure of another man's; a uſe which it is neither fit for, nor capable of.

Partiality. §. 24. This partiality, where it is not permitted an authority to render all other ſtudies inſignificant or contemptible, is often indulged ſo far as to be relied upon, and made uſe of in other parts of knowledge, to which it does not at all belong, and wherewith it has no manner of affinity. Some men have ſo uſed their heads to mathematical figures; that, giving a preference to the methods of that ſcience, they introduce lines and diagrams into their ſtudy of divinity, or politic inquiries, as if nothing could be known without them; and others accuſtomed to retired ſpeculations, run natural philoſophy into metaphyſical notions,

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and the abſtract generalities of logic; and how often may one meet with religion and morality treated of in the terms of the laboratory, and thought to be improved by the methods and notions of chemiſtry? But he that will take care of the conduct of his underſtanding, to direct it right to the knowledge of things, muſt avoid thoſe undue mixtures, and not, by a fondneſs for what he has found uſeful and neceſſary in one, transfer it to another ſcience, where it ſerves only to perplex and confound the underſtanding. It is a certain truth, that "res nolunt malè adminiſtrari;" it is no leſs certain "res nolunt malè intelligi." Things themſelves are to be conſidered as they are in themſelves, and then they will ſhow us in what way they are to be underſtood. For to have right conceptions about them, we muſt bring our underſtandings to the inflexible natures, and unalterable relations of things, and not endeavour to bring things to any preconceived notions of our own.

There is another partiality very commonly obſervable in men of ſtudy, no leſs prejudicial, nor ridiculous, than the former; and that is a fantaſtical and wild attributing all knowledge to the ancients alone, or to the moderns. This raving upon antiquity in matter of poetry, Horace has wittily deſcribed and expoſed in one of his ſatires. The ſame ſort of madneſs may be found in reference to all the other ſciences. Some will not admit an opinion not authoriſed by men of old, who were then all giants in knowledge. Nothing is to be put into the treaſury of truth, or knowledge, which has not the ſtamp of Greece, or Rome, upon it; and ſince their days will ſcarce allow, that men have been able to ſee, think or write. Others, with a like extravagancy, contemn all that the ancients have left us, and being taken with the modern inventions and diſcoveries, lay by all that went before, as if whatever is called old muſt have the decay of time upon it, and truth, too, were liable to mould and rottenneſs. Men, I think, have been much the ſame for natural endowments, in all times. Faſhion, diſcipline, and education, have put eminent differences in the ages of ſeveral countries, and made one generation much differ from another in arts and ſciences: but

truth is always the ſame; time alters it not, nor is it the better, or worſe, for being of ancient or modern tradition. Many were eminent in former ages of the world for their diſcovery and delivery of it; but though the knowledge they have left us be worth our ſtudy, yet they exhauſted not all its treaſure; they left a great deal for the induſtry and ſagacity of after-ages, and ſo ſhall we. That was once new to them, which any one now receives with veneration for its antiquity, nor was it the worſe for appearing as a novelty; and that which is now embraced for its newneſs, will to poſterity be old, but not thereby be leſs true, or leſs genuine. There is no occaſion, on this account, to oppoſe the ancients and the moderns to one another, or to be ſqueamiſh on either ſide. He that wiſely conducts his mind in the purſuit of knowledge, will gather what lights, and get what helps he can, from either of them, from whom they are beſt to be had, without adoring the errours, or rejecting the truths, which he may find mingled in them.

Another partiality may be obſerved, in ſome to vulgar, in others, to heterodox tenets: ſome are apt to conclude, that what is the common opinion cannot but be true; ſo many men's eyes they think cannot but ſee right; ſo many men's underſtandings of all ſorts cannot be deceived; and, therefore, will not venture to look beyond the received notions of the place and age, nor have ſo preſumptuous a thought as to be wiſer than their neighbours. They are content to go with the crowd, and ſo go eaſily, which they think is going right, or at leaſt ſerves them as well. But however "vox populi vox Dei" has prevailed as a maxim; yet I do not remember where ever God delivered his oracles by the multitude; or nature, truths by the herd. On the other ſide, ſome fly all common opinions as either falſe or frivolous. The title of many-headed beaſt is a ſufficient reaſon to them to conclude, that no truths of weight or conſequence can be lodged there. Vulgar opinions are ſuited to vulgar capacities, and adapted to the ends of thoſe that govern. He that will know the truth of things, muſt leave the common and beaten track, which none but weak and ſervile minds are

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ſatisfied to trudge along continually in. Such nice palates reliſh nothing but ſtrange notions quite out of the way: Whatever is commonly received, has the mark of the beaſt on it; and they think it a leſſening to them to hearken to it, or receive it; their mind runs only after paradoxes; theſe they ſeek, theſe they embrace, theſe alone they vent; and ſo, as they think, diſtinguiſh themſelves from the vulgar. But common or uncommon are not the marks to diſtinguiſh truth or falſhood, and therefore ſhould not be any bias to us in our inquiries. We ſhould not judge of things by men's opinions, but of opinions by things. The multitude reaſon but ill, and therefore may be well ſuſpected, and cannot be relied on, nor ſhould be followed, as a ſure guide; but philoſophers, who have quitted the orthodoxy of the community, and the popular doctrines of their countries, have fallen into as extravagant and as abſurd opinions as ever common reception countenanced. It would be madneſs to refuſe to breathe the common air, or quench one's thirſt with water, becauſe the rabble uſe them to theſe purpoſes; and if there are conveniences of life which common uſe reaches not, it is not reaſon to reject them, becauſe they are not grown into the ordinary faſhion of the country, and every villager doth not know them.

Truth, whether in or out of faſhion, is the meaſure of knowledge, and the buſineſs of the underſtanding; whatſoever is beſides that, however authoriſed by conſent, or recommended by rarity, is nothing but ignorance, or ſomething worſe.

Another ſort of partiality there is, whereby men impoſe upon themſelves, and by it make their reading little uſeful to themſelves; I mean the making uſe of the opinions of writers, and laying ſtreſs upon their authorities, wherever they find them to favour their own opinions.

There is nothing almoſt has done more harm to men dedicated to letters, than giving the name of ſtudy to reading, and making a man of great reading to be the ſame with a man of great knowledge, or at leaſt to be a title

title of honour. All that can be recorded in writing are only facts or reaſonings. Facts are of three ſorts;

1. Merely of natural agents, obſervable in the ordinary operations of bodies one upon another, whether in the viſible courſe of things left to themſelves, or in experiments made by them, applying agents and patients to one another, after a peculiar and artificial manner.

2. Of voluntary agents, more eſpecially the actions of men in ſociety, which makes civil and moral hiſtory.

3. Of opinions.

In theſe three conſiſts, as it ſeems to me, that which commonly has the name of learning; to which perhaps ſome may add a diſtinct head of critical writings, which indeed at bottom is nothing but matter of fact; and reſolves itſelf into this, that ſuch a man, or ſet of men, uſed ſuch a word, or phraſe, in ſuch a ſenſe; i. e. that they made ſuch ſounds the marks of ſuch ideas.

Under reaſonings I comprehend all the diſcoveries of general truths made by human reaſon, whether found by intuition, demonſtration, or probable deductions. And this is that which is, if not alone knowledge, (becauſe the truth or probability of particular propoſitions may be known too) yet is, as may be ſuppoſed, moſt properly the buſineſs of thoſe who pretend to improve their underſtandings, and make themſelves knowing by reading.

Books and reading are looked upon to be the great helps of the underſtanding, and inſtruments of knowledge, as it muſt be allowed that they are; and yet I beg leave to queſtion whether theſe do not prove an hindrance to many, and keep ſeveral bookiſh men from attaining to ſolid and true knowledge. This, I think, I may be permitted to ſay, that there is no part wherein the underſtanding needs a more careful and wary conduct than in the uſe of books; without which they will prove rather innocent amuſements, than profitable employments of our time, and bring but ſmall additions to our knowledge.

There is not ſeldom to be found, even amongſt thoſe who aim at knowledge, who with an unwearied induſtry employ their whole time in books, who ſcarce allow them-

themſelves time to eat or ſleep, but read, and read, and read on, yet make no great advances in real knowledge, though there be no defect in their intellectual faculties, to which their little progreſs can be imputed. The miſtake here is, that it is uſually ſuppoſed, that by reading, the author's knowledge is transfuſed into the reader's underſtanding; and ſo it is, but not by bare reading, but by reading and underſtanding what he writ. Whereby I mean, not barely comprehending what is affirmed or denied in each propoſition (though that great readers do not always think themſelves concerned preciſely to do) but to ſee and follow the train of his reaſonings, obſerve the ſtrength and clearneſs of their connexion, and examine upon what they bottom. Without this a man may read the diſcourſes of a very rational author, writ in a language, and in propoſitions, that he very well underſtands, and yet acquire not one jot of his knowledge; which conſiſting only in the perceived, certain, or probable connexion of the ideas made uſe of in his reaſonings, the reader's knowledge is no farther increaſed than he perceives that; ſo much as he ſees of this connexion, ſo much he knows of the truth, or probability, of that author's opinions.

All that he relies on, without this perception, he takes upon truſt, upon the author's credit, without any knowledge of it at all. This makes me not at all wonder to ſee ſome men ſo abound in citations, and build ſo much upon authorities, it being the ſole foundation on which they bottom moſt of their own tenets; ſo that, in effect, they have but a ſecond-hand, or implicit knowledge; i. e. are in the right, if ſuch an one from whom they borrowed it, were in the right in that opinion which they took from him; which indeed is no knowledge at all. Writers of this or former ages may be good witneſſes of matters of fact which they deliver, which we may do well to take upon their authority; but their credit can go no farther than this; it cannot at all affect the truth and falſhood of opinions, which have no other ſort of trial but reaſon and proof, which they themſelves made uſe of to make themſelves knowing, and ſo muſt others too, that will partake in their knowledge.

ledge. Indeed it is an advantage that they have been at the pains to find out the proofs, and lay them in that order that may ſhow the truth or probability of their concluſions; and for this we owe them great acknowledgments for ſaving us the pains in ſearching out thoſe proofs which they have collected for us, and which poſſibly, after all our pains, we might not have found, nor been able to have ſet them in ſo good a light as that which they left them us in. Upon this account we are mightily beholden to judicious writers of all ages, for thoſe diſcoveries and diſcourſes they have left behind them for our inſtruction, if we know how to make a right uſe of them; which is not to run them over in an haſty peruſal, and perhaps lodge their opinions, or ſome remarkable paſſages in our memories; but to enter into their reaſonings, examine their proofs, and then judge of the truth or falſhood, probability or improbability, of what they advance; not by any opinion we have entertained of the author; but by the evidence he produces, and the conviction he affords us, drawn from things themſelves. Knowing is ſeeing, and if it be ſo, it is madneſs to perſuade ourſelves that we do ſo by another man's eyes, let him uſe ever ſo many words to tell us, that what he aſſerts is very viſible. Till we ourſelves ſee it with our own eyes, and perceive it by our own underſtandings, we are as much in the dark, and as void of knowledge as before, let us believe any learned author as much as we will.

Euclid and Archimedes are allowed to be knowing, and to have demonſtrated what they ſay; and yet whoever ſhall read over their writings without perceiving the connexion of their proofs, and ſeeing what they ſhow, though he may underſtand all their words, yet he is not the more knowing: he may believe, indeed, but does not know what they ſay; and ſo is not advanced one jot in mathematical knowledge, by all his reading of thoſe approved mathematicians.

Haſte. §. 25. The eagerneſs and ſtrong bent of the mind after knowledge, if not warily regulated, is often an hindrance to it. It ſtill preſſes into farther diſcoveries and new objects, and catches at the variety

variety of knowledge; and therefore often ſtays not long enough on what is before it, to look into it as it ſhould, for haſte to purſue what is yet out of ſight. He that rides poſt through a country, may be able, from the tranſient view, to tell how in general the parts lie, and may be able to give ſome looſe deſcription of here a mountain, and there a plain; here a moraſs, and there a river; woodland in one part, and ſavannahs in another. Such ſuperficial ideas and obſervations as theſe he may collect in galloping over it: but the more uſeful obſervations of the ſoil, plants, animals, and inhabitants, with their ſeveral ſorts and properties, muſt neceſſarily eſcape him; and it is ſeldom men ever diſcover the rich mines without ſome digging. Nature commonly lodges her treaſure and jewels in rocky ground. If the matter be knotty, and the ſenſe lies deep, the mind muſt ſtop and buckle to it, and ſtick upon it with labour and thought, and cloſe contemplation; and not leave it till it has maſtered the difficulty, and got poſſeſſion of truth. But here care muſt be taken to avoid the other extreme: a man muſt not ſtick at every uſeleſs nicety, and expect myſteries of ſcience in every trivial queſtion, or ſcruple, that he may raiſe. He that will ſtand to pick up and examine every pebble that comes in his way, is as unlikely to return enriched and loaden with jewels, as the other that travelled full ſpeed. Truths are not the better nor the worſe for their obviouſneſs or difficulty, but their value is to be meaſured by their uſefulneſs and tendency. Inſignificant obſervations ſhould not take up any of our minutes, and thoſe that enlarge our view, and give light towards farther and uſeful diſcoveries, ſhould not be neglected, though they ſtop our courſe, and ſpend ſome of our time in a fixed attention.

There is another haſte that does often, and will miſlead the mind if it be left to itſelf, and its own conduct. The underſtanding is naturally forward, not only to learn its knowledge by variety (which makes it ſkip over one to get ſpeedily to another part of knowledge) but alſo eager to enlarge its views, by running too faſt into general obſervations and concluſions, without a due exa-

examination of particulars enough whereon to found those general axioms. This seems to enlarge their stock, but it is of fancies, not realities; such theories built upon narrow foundations stand but weakly, and, if they fall not of themselves, are at least very hardly to be supported against the assaults of opposition. And thus men being too hasty to erect to themselves general notions and ill-grounded theories, find themselves deceived in their stock of knowledge, when they come to examine their hastily assumed maxims themselves, or to have them attacked by others. General observations drawn from particulars, are the jewels of knowledge, comprehending great store in a little room; but they are therefore to be made with the greater care and caution, lest, if we take counterfeit for true, our loss and shame be the greater when our stock comes to a severe scrutiny. One or two particulars may suggest hints of inquiry, and they do well to take those hints; but if they turn them into conclusions, and make them presently general rules, they are forward indeed, but it is only to impose on themselves by propositions assumed for truths without sufficient warrant. To make such observations is, as has been already remarked, to make the head a magazine of materials, which can hardly be called knowledge; or at least it is but like a collection of lumber not reduced to use or order; and he that makes every thing an observation, has the same useless plenty and much more falshood mixed with it. The extremes on both sides are to be avoided, and he will be able to give the best account of his studies who keeps his understanding in the right mean between them.

Anticipation.

§. 26. Whether it be a love of that which brings the first light and information to their minds, and want of vigour and industry to inquire; or else that men content themselves with any appearance of knowledge, right or wrong; which, when they have once got, they will hold fast: this is visible, that many men give themselves up to the first anticipations of their minds, and are very tenacious of the opinions that first possess them; they are often as fond of their first conceptions as of their first-born, and will

will by no means recede from the judgment they have once made, or any conjecture or conceit which they have once entertained. This is a fault in the conduct of the underſtanding, ſince this firmneſs or rather ſtiffneſs of the mind is not from an adherence to truth, but a ſubmiſſion to prejudice. It is an unreaſonable homage paid to prepoſſeſſion, whereby we ſhow a reverence, not to (what we pretend to ſeek) truth, but what by hap-hazard we chance to light on, be it what it will. This is viſibly a prepoſterous uſe of our faculties, and is a downright proſtituting of the mind to reſign it thus, and put it under the power of the firſt comer. This can never be allowed, or ought to be followed, as a right way to knowledge, till the underſtanding (whoſe buſineſs it is to conform itſelf to what it finds in the objects without) can, by its own opinionatry, change that, and make the unalterable nature of things comply with its own haſty determinations, which will never be. Whatever we fancy, things keep their courſe; and the habitudes, correſpondencies, and relations, keep the ſame to one another.

Reſignation.

§. 27. Contrary to theſe, but by a like dangerous exceſs, on the other ſide, are thoſe who always reſign their judgment to the laſt man they heard or read. Truth never ſinks into theſe men's minds, nor gives any tincture to them; but, cameleon-like, they take the colour of what is laid before them, and as ſoon loſe and reſign it to the next that happens to come in their way. The order wherein opinions are propoſed, or received by us, is no rule of their rectitude, nor ought to be a cauſe of their preference. Firſt or laſt in this caſe, is the effect of chance, and not the meaſure of truth or falſhood. This every one muſt confeſs, and therefore ſhould, in the purſuit of truth, keep his mind free from the influence of any ſuch accidents. A man may as reaſonably draw cuts for his tenets, regulate his perſuaſion by the caſt of a dye, as take it up for its novelty, or retain it becauſe it had his firſt aſſent, and he was never of another mind. Well-weighed reaſons are to determine the judgment; thoſe the mind ſhould be always ready to hearken and ſubmit to, and

by their teſtimony and ſuffrage, entertain or reject any tenet indifferently, whether it be a perfect ſtranger, or an old acquaintance.

Practice. §. 28. Though the faculties of the mind are improved by exerciſe, yet they muſt not be put to a ſtreſs beyond their ſtrength. "Quid valeant "humeri, quid ferre recuſent," muſt be made the meaſure of every one's underſtanding, who has a deſire not only to perform well, but to keep up the vigour of his faculties; and not to baulk his underſtanding by what is too hard for it. The mind, by being engaged in a taſk beyond its ſtrength, like the body, ſtrained by lifting at a weight too heavy, has often its force broken, and thereby gets an unaptneſs, or an averſion, to any vigorous attempt ever after. A ſinew cracked ſeldom recovers its former ſtrength, or at leaſt the tenderneſs of the ſprain remains a good while after, and the memory of it longer, and leaves a laſting caution in the man, not to put the part quickly again to any robuſt employment. So it fares in the mind once jaded by an attempt above its power; it either is diſabled for the future; or elſe checks at any vigorous undertaking ever after; at leaſt is very hardly brought to exert its force again on any ſubject that requires thought and meditation. The underſtanding ſhould be brought to the difficult and knotty parts of knowledge, that try the ſtrength of thought, and a full bent of the mind, by inſenſible degrees; and in ſuch a gradual proceeding nothing is too hard for it. Nor let it be objected, that ſuch a ſlow progreſs will never reach the extent of ſome ſciences. It is not to be imagined how far conſtancy will carry a man; however, it is better walking ſlowly in a rugged way, than to break a leg and be a cripple. He that begins with the calf may carry the ox; but he that will at firſt go to take up an ox, may ſo diſable himſelf, as not to be able to lift up a calf after that. When the mind, by inſenſible degrees, has brought itſelf to attention and cloſe thinking, it will be able to cope with difficulties, and maſter them without any prejudice to itſelf, and then it may go on roundly. Every abſtruſe problem, every intricate queſtion, will not baffle, diſcourage, or

break

break it. But though putting the mind unprepared upon an unuſual ſtreſs, that may diſcourage or damp it for the future, ought to be avoided; yet this muſt not run it, by an over-great ſhyneſs of difficulties, into a lazy ſauntering about ordinary and obvious things, that demand no thought or application. This debaſes and enervates the underſtanding, makes it weak and unfit for labour. This is a ſort of hovering about the ſurface of things, without any inſight into them or penetration; and when the mind has been once habituated to this lazy recumbency and ſatisfaction on the obvious ſurface of things it is in danger to reſt ſatisfied there, and go no deeper; ſince it cannot do it without pains and digging. He that has for ſome time accuſtomed himſelf to take up with what eaſily offers itſelf at firſt view, has reaſon to fear he ſhall never reconcile himſelf to the fatigue of turning and tumbling things in his mind, to diſcover their more retired and more valuable ſecrets.

It is not ſtrange that methods of learning which ſcholars have been accuſtomed to in their beginning and entrance upon the ſciences, ſhould influence them all their lives, and be ſettled in their minds by an over-ruling reverence; eſpecially if they be ſuch as univerſal uſe has eſtabliſhed. Learners muſt at firſt be believers, and their maſter's rules having been once made axioms to them, it is no wonder they ſhould keep that dignity, and by the authority they have once got, miſlead thoſe who think it ſufficient to excuſe them, if they go out of their way in a well-beaten track.

§. 29. I have copiouſly enough ſpoken of the abuſe of words in another place, and therefore ſhall upon this reflection, that the ſciences are full of them, warn thoſe that would conduct their underſtandings right, not to take any term, howſoever authoriſed by the language of the ſchools, to ſtand for any thing till they have an idea of it. A word may be of frequent uſe, and great credit, with ſeveral authors, and be by them made uſe of as if it ſtood for ſome real being; but yet, if he that reads cannot frame any diſtinct idea of that being, it is certainly to him a mere empty ſound without a meaning; and he learns no more by all

Words.

that is ſaid of it, or attributed to it, than if it were affirmed only of that bare empty ſound. They who would advance in knowledge, and not deceive and ſwell themſelves with a little articulated air, ſhould lay down this as a fundamental rule, not to take words for things, nor ſuppoſe that names in books ſignify real entities in nature, till they can frame clear and diſtinct ideas of thoſe entities. It will not perhaps be allowed, if I ſhould ſet down "ſubſtantial forms" and "intentional ſpecies," as ſuch that may juſtly be ſuſpected to be of this kind of inſignificant terms. But this I am ſure, to one that can form no determined ideas of what they ſtand for, they ſignify nothing at all; and all that he thinks he knows about them, is to him ſo much knowledge about nothing, and amounts at moſt but to be a learned ignorance. It is not without all reaſon ſuppoſed, that there are many ſuch empty terms to be found in ſome learned writers, to which they had recourſe to etch out their ſyſtems, where their underſtandings could not furniſh them with conceptions from things. But yet I believe the ſuppoſing of ſome realities in nature, anſwering thoſe and the like words, have much perplexed ſome, and quite miſled others in the ſtudy of nature. That which in any diſcourſe ſignifies, "I know not what," ſhould be conſidered "I know not when." Where men have any conceptions, they can, if they are never ſo abſtruſe or abſtracted, explain them, and the terms they uſe for them. For our conceptions being nothing but ideas, which are all made up of ſimple ones: if they cannot give us the ideas their words ſtand for, it is plain they have none. To what purpoſe can it be, to hunt after his conceptions, who has none, or none diſtinct: He that knew not what he himſelf meant by a learned term, cannot make us know any thing by his uſe of it, let us beat our heads about it never ſo long. Whether we are able to comprehend all the operations of nature, and the manners of them, it matters not to inquire; but this is certain, that we can comprehend no more of them, than we can diſtinctly conceive; and therefore to obtrude terms where we have no diſtinct conceptions, as if they did contain, or rather conceal

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something; is but an artifice of learned vanity to cover a defect in an hypothesis or our understandings. Words are not made to conceal, but to declare and show something; where they are by those, who pretend to instruct, otherwise used, they conceal indeed something; but that that they conceal is nothing but the ignorance, errour, or sophistry of the talker; for there is, in truth, nothing else under them.

Wandering.

§. 30. That there is a constant succession and flux of ideas in our minds, I have observed in the former part of this essay; and every one may take notice of it in himself. This, I suppose, may deserve some part of our care in the conduct of our understandings; and I think it may be of great advantage, if we can by use get that power over our minds, as to be able to direct that train of ideas, that so, since there will new ones perpetually come into our thoughts by a constant succession, we may be able by choice so to direct them, that none may come in view, but such as are pertinent to our present inquiry, and in such order as may be most useful to the discovery we are upon; or at least, if some foreign and unsought ideas will offer themselves, that yet we might be able to reject them, and keep them from taking off our minds from its present pursuit, and hinder them from running away with our thoughts quite from the subject in hand. This is not, I suspect, so easy to be done, as perhaps may be imagined; and yet, for aught I know, this may be, if not the chief, yet one of the great differences that carry some men in their reasoning so far beyond others, where they seem to be naturally of equal parts. A proper and effectual remedy for this wandering of thoughts I would be glad to find. He that shall propose such an one, would do great service to the studious and contemplative part of mankind, and perhaps help unthinking men to become thinking. I must acknowledge that hitherto I have discovered no other way to keep our thoughts close to their business, but the endeavouring as much as we can, and by frequent attention and application, getting the habit of attention and application. He that will observe children, will find, that even when they

endeavour their utmoſt, they cannot keep their minds from ſtraggling. The way to cure it, I am ſatisfied, is not angry chiding or beating, for that preſently fills their heads with all the ideas that fear, dread, or confuſion can offer to them. To bring back gently their wandering thoughts, by leading them into the path, and going before them in the train they ſhould purſue, without any rebuke, or ſo much as taking notice (where it can be avoided) of their roving, I ſuppoſe, would ſooner reconcile and inure them to attention, than all thoſe rougher methods which more diſtract their thought, and hindering the application they would promote, introduce a contrary habit.

Diſtinction. §. 31. Diſtinction and diviſion are (if I miſtake not the import of the words) very different things; the one being the perception of a difference that nature has placed in things; the other, our making a diviſion where there is yet none; at leaſt, if I may be permitted to conſider them in this ſenſe, I think I may ſay of them, that one of them is the moſt neceſſary and conducive to true knowledge that can be; the other, when too much made uſe of, ſerves only to puzzle and confound the underſtanding. To obſerve every the leaſt difference that is in things argues a quick and clear ſight; and this keeps the underſtanding ſteady, and right in its way to knowledge. But though it be uſeful to diſcern every variety that is to be found in nature, yet it is not convenient to conſider every difference that is in things, and divide them into diſtinct claſſes under every ſuch difference. This will run us, if followed, into particulars, (for every individual has ſomething that differences it from another) and we ſhall be able to eſtabliſh no general truths, or elſe at leaſt ſhall be apt to perplex the mind about them. The collection of ſeveral things into ſeveral claſſes, gives the mind more general and larger views; but we muſt take care to unite them only in that, and ſo far as, they do agree, for ſo far they may be united under the conſideration: for entity itſelf, that comprehends all things, as general as it is, may afford us clear and rational conceptions. If we would weigh and keep in our minds what it is we

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are conſidering, that would beſt inſtruct us when we ſhould, or ſhould not branch into farther diſtinctions, which are to be taken only from a due contemplation of things; to which there is nothing more oppoſite than the art of verbal diſtinctions, made at pleaſure in learned and arbitrarily invented terms, to be applied at a venture, without comprehending or conveying any diſtinct notions; and ſo altogether fitted to artificial talk, or empty noiſe in diſpute, without any clearing of difficulties, or advance in knowledge. Whatſoever ſubject we examine and would get knowledge in, we ſhould, I think, make as general and as large as it will bear; nor can there be any danger of this, if the idea of it be ſettled and determined: For if that be ſo, we ſhall eaſily diſtinguiſh it from any other idea, though comprehended under the ſame name. For it is to fence againſt the intanglements of equivocal words, and the great art of ſophiſtry which lies in them, that diſtinctions have been multiplied, and their uſe thought ſo neceſſary. But had every diſtinct abſtract idea a diſtinct known name, there would be little need of theſe multiplied ſcholaſtic diſtinctions, though there would be nevertheleſs as much need ſtill of the mind's obſerving the differences that are in things, and diſcriminating them thereby one from another. It is not therefore the right way to knowledge, to hunt after, and fill the head with abundance of artificial and ſcholaſtic diſtinctions, wherewith learned men's writings are often filled: we ſometimes find what they treat of ſo divided and ſubdivided, that the mind of the moſt attentive reader loſes the ſight of it, as it is more than probable the writer himſelf did; for in things crumbled into duſt, it is in vain to affect or pretend order, or expect clearneſs. To avoid confuſion by too few or too many diviſions, is a great ſkill in thinking as well as writing, which is but the copying our thoughts; but what are the boundaries of the mean between the two vicious exceſſes on both hands, I think is hard to ſet down in words: clear and diſtinct ideas is all that I yet know able to regulate it. But as to verbal diſtinctions received and applied to common terms, i. e. equivocal words, they are more properly, I think, the buſi-

neſs of criticiſms and dictionaries than of real knowledge and philoſophy; ſince they, for the moſt part, explain the meaning of words, and give us their ſeveral ſignifications. The dexterous management of terms, and being able to fend and prove with them, I know has and does paſs in the world for a great part of learning; but it is learning diſtinct from knowledge; for knowledge conſiſts only in perceiving the habitudes and relations of ideas one to another, which is done without words; the intervention of a ſound helps nothing to it. And hence we ſee that there is leaſt uſe of diſtinctions where there is moſt knowledge; I mean in mathematics, where men have determined ideas without known names to them; and ſo there being no room for equivocations, there is no need of diſtinctions. In arguing, the opponent uſes as comprehenſive and equivocal terms as he can, to involve his adverſary in the doubtfulneſs of his expreſſions: this is expected, and therefore the anſwerer on his ſide makes it his play to diſtinguiſh as much as he can, and thinks he can never do it too much; nor can he indeed in that way wherein victory may be had without truth and without knowledge. This ſeems to me to be the art of diſputing. Uſe your words as captiouſly as you can in your arguing on one ſide, and apply diſtinctions as much as you can on the other ſide to every term, to nonplus your opponent; ſo that in this ſort of ſcholarſhip, there being no bounds ſet to diſtinguiſhing, ſome men have thought all acuteneſs to have lain in it; and therefore in all they have read or thought on, their great buſineſs has been to amuſe themſelves with diſtinctions, and multiply to themſelves diviſions; at leaſt, more than the nature of the thing required. There ſeems to me, as I ſaid, to be no other rule for this, but a due and right conſideration of things as they are in themſelves. He that has ſettled in his mind determined ideas, with names affixed to them, will be able both to diſcern their differences one from another; which is really diſtinguiſhing: and, where the penury of words affords not terms anſwering every diſtinct idea, will be able to apply proper diſtinguiſhing terms to the comprehenſive and equivocal names he is forced

forced to make uſe of. This is all the need I know of diſtinguiſhing terms; and in ſuch verbal diſtinctions, each term of the diſtinction, joined to that whoſe ſignification it diſtinguiſhes, is but a diſtinct name for a diſtinct idea. Where they are ſo, and men have clear and diſtinct conceptions that anſwer their verbal diſtinctions, they are right, and are pertinent as far as they ſerve to clear any thing in the ſubject under conſideration. And this is that which ſeems to me the proper and only meaſure of diſtinctions and diviſions; which he that will conduct his underſtanding right, muſt not look for in the acuteneſs of invention, nor the authority of writers, but will find only in the conſideration of things themſelves, whether he is led into it by his own meditations, or the information of books.

An aptneſs to jumble things together, wherein can be found any likeneſs, is a fault in the underſtanding on the other ſide, which will not fail to miſlead it, and by thus lumping of things, hinder the mind from diſtinct and accurate conceptions of them.

Similies.

§. 32. To which let me here add another near of kin to this, at leaſt in name, and that is letting the mind, upon the ſuggeſtion of any new notion, run immediately after ſimilies to make it the clearer to itſelf; which, though it may be a good way, and uſeful in the explaining our thoughts to others; yet it is by no means a right method to ſettle true notions of any thing in ourſelves, becauſe ſimilies always fail in ſome part, and come ſhort of that exactneſs which our conceptions ſhould have to things, if we would think aright. This indeed makes men plauſible talkers; for thoſe are always moſt acceptable in diſcourſe who have the way to let their thoughts into other men's minds with the greateſt eaſe and facility; whether thoſe thoughts are well formed and correſpond with things, matters not; few men care to be inſtructed but at an eaſy rate. They, who in their diſcourſe ſtrike the fancy, and take the hearers conceptions along with them as faſt as their words flow, are the applauded talkers, and go for the only men of clear thoughts. Nothing contributes ſo much to this as ſimilies, whereby men think they themſelves

ſelves underſtand better, becauſe they are the better underſtood. But it is one thing to think right, and another thing to know the right way to lay our thoughts before others with advantage and clearneſs, be they right or wrong. Well-choſen ſimilies, metaphors, and allegories, with method and order, do this the beſt of any thing, becauſe being taken from objects already known, and familiar to the underſtanding, they are conceived as faſt as ſpoken; and the correſpondence being concluded, the thing they are brought to explain and elucidate is thought to be underſtood too. Thus fancy paſſes for knowledge, and what is prettily ſaid is miſtaken for ſolid. I ſay not this to decry metaphor, or with deſign to take away that ornament of ſpeech; my buſineſs here is not with rhetoricians and orators, but with philoſophers and lovers of truth; to whom I would beg leave to give this one rule whereby to try whether, in the application of their thoughts to any thing for the improvement of their knowledge, they do in truth comprehend the matter before them really ſuch as it is in itſelf. The way to diſcover this is to obſerve whether, in the laying it before themſelves or others, they make uſe only of borrowed repreſentations, and ideas foreign to the things, which are applied to it by way of accommodation, as bearing ſome proportion or imagined likeneſs to the ſubject under conſideration. Figured and metaphorical expreſſions do well to illuſtrate more abſtruſe and unfamiliar ideas which the mind is not yet thoroughly accuſtomed to; but then they muſt be made uſe of to illuſtrate ideas that we already have, not to paint to us thoſe which we yet have not. Such borrowed and alluſive ideas may follow real and ſolid truth, to ſet it off when found; but muſt by no means be ſet in its place, and taken for it. If all our ſearch has yet reached no farther than ſimilie and metaphor, we may aſſure ourſelves we rather fancy than know, and have not yet penetrated into the inſide and reality of the thing, be it what it will, but content ourſelves with what our imaginations, not things themſelves, furniſh us with.

§. 33.

§. 33. In the whole conduct of the underſtanding, there is nothing of more moment than to know when and where, and how far to give aſſent; and poſſibly there is nothing harder. It is very eaſily ſaid, and nobody queſtions it, that giving and with-holding our aſſent, and the degrees of it, ſhould be regulated by the evidence which things carry with them; and yet we ſee men are not the better for this rule; ſome firmly embrace doctrines upon ſlight grounds, ſome upon no grounds, and ſome contrary to appearance: ſome admit of certainty, and are not to be moved in what they hold: others waver in every thing, and there want not thoſe that reject all as uncertain. What then ſhall a novice, an inquirer, a ſtranger do in the caſe? I anſwer, uſe his eyes. There is a correſpondence in things, and agreement and diſagreement in ideas, diſcernible in very different degrees, and there are eyes in men to ſee them, if they pleaſe: only their eyes may be dimmed or dazzled, and the diſcerning ſight in them impaired or loſt. Intereſt and paſſion dazzles; the cuſtom of arguing on any ſide, even againſt our perſuaſions, dims the underſtanding, and makes it by degrees loſe the faculty of diſcerning clearly between truth and falſhood, and ſo of adhering to the right ſide. It is not ſafe to play with errour, and dreſs it up to ourſelves or others in the ſhape of truth. The mind by degrees loſes its natural reliſh of real ſolid truth, is reconciled inſenſibly to any thing that can be dreſſed up into any feint appearance of it; and if the fancy be allowed the place of judgment at firſt in ſport, it afterwards comes by uſe to uſurp it; and what is recommended by this flatterer (that ſtudies but to pleaſe) is received for good. There are ſo many ways of fallacy, ſuch arts of giving colours, appearances and reſemblances by this court-dreſſer, the fancy, that he who is not wary to admit nothing but truth itſelf, very careful not to make his mind ſubſervient to any thing elſe, cannot but be caught. He that has a mind to believe, has half aſſented already; and he that by often arguing againſt his own ſenſe, impoſes falſhood on others, is not far from believing himſelf. This takes away the great diſtance there is betwixt truth Aſſent.

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and falſhood; it brings them almoſt together, and makes it no great odds, in things that approach ſo near, which you take; and when things are brought to that paſs, paſſion, or intereſt, &c. eaſily, and without being perceived, determine which ſhall be the right.

Indifferency. §. 34. I have ſaid above, that we ſhould keep a perfect indifferency for all opinions, not wiſh any of them true, or try to make them appear ſo; but being indifferent, receive and embrace them according as evidence, and that alone, gives the atteſtation of truth. They that do thus, i. e. keep their minds indifferent to opinions, to be determined only by evidence, will always find the underſtanding has perception enough to diſtinguiſh between evidence and no evidence, betwixt plain and doubtful; and if they neither give nor refuſe their aſſent but by that meaſure, they will be ſafe in the opinions they have. Which being perhaps but few, this caution will have alſo this good in it, that it will put them upon conſidering, and teach them the neceſſity of examining more than they do; without which the mind is but a receptacle of inconſiſtencies, not the ſtore-houſe of truths. They that do not keep up this indifferency in themſelves for all but truth, not ſuppoſed, but evidenced in themſelves, put coloured ſpectacles before their eyes, and look on things through falſe glaſſes, and then think themſelves excuſed in following the falſe appearances, which they themſelves put upon them. I do not expect that by this way the aſſent ſhould in every one be proportioned to the grounds and clearneſs wherewith every truth is capable to be made out; or that men ſhould be perfectly kept from errour: that is more than human nature can by any means be advanced to; I aim at no ſuch unattainable privilege; I am only ſpeaking of what they ſhould do, who would deal fairly with their own minds, and make a right uſe of their faculties in the purſuit of truth; we fail them a great deal more than they fail us. It is miſmanagement more than want of abilities that men have reaſon to complain of, and which they actually do complain of in thoſe that differ from them. He that by indifferency for all but truth, ſuffers not his aſſent

to go faſter than his evidence, nor beyond it; will learn to examine, and examine fairly inſtead of preſuming, and nobody will be at a loſs, or in danger for want of embracing thoſe truths which are neceſſary in his ſtation and circumſtances. In any other way but this, all the world are born to orthodoxy; they imbibe at firſt the allowed opinions of their country and party, and ſo never queſtioning their truth, not one of an hundred ever examines. They are applauded for preſuming they are in the right. He that conſiders is a foe to orthodoxy, becauſe poſſibly he may deviate from ſome of the received doctrines there. And thus men, without any induſtry or acquiſition of their own, inherit local truths (for it is not the ſame every where) and are inured to aſſent without evidence. This influences farther than is thought; for what one of an hundred of the zealous bigots in all parties, ever examined the tenets he is ſo ſtiff in; or ever thought it his buſineſs or duty ſo to do? It is ſuſpected of luke-warmneſs to ſuppoſe it neceſſary, and a tendency to apoſtacy to go about it. And if a man can bring his mind once to be poſitive and fierce for poſitions, whoſe evidence he has never once examined, and that in matters of greateſt concernment to him; what ſhall keep him from this ſhort and eaſy way of being in the right in caſes of leſs moment? Thus we are taught to clothe our minds as we do our bodies, after the faſhion in vogue, and it is accounted fantaſticalneſs, or ſomething worſe, not to do ſo. This cuſtom (which who dares oppoſe?) makes the ſhort-ſighted bigots, and the warier ſceptics, as far as it prevails: and thoſe that break from it are in danger of hereſy: for taking the whole world, how much of it doth truth and orthodoxy poſſeſs together? Though it is by the laſt alone (which has the good luck to be every where) that errour and hereſy are judged of: for argument and evidence ſignify nothing in the caſe, and excuſe no where, but are ſure to be borne down in all ſocieties by the infallible orthodoxy of the place. Whether this be the way to truth and right aſſent, let the opinions, that take place and preſcribe in the ſeveral habitable parts of the earth, declare. I never ſaw any reaſon yet why truth might not

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be truſted on its own evidence: I am ſure if that be not able to ſupport it, there is no fence againſt errour; and then truth and falſhood are but names that ſtand for the ſame things. Evidence therefore is that by which alone every man is (and ſhould be) taught to regulate his aſſent, who is then, and then only, in the right way, when he follows it.

Men deficient in knowledge are uſually in one of theſe three ſtates; either wholly ignorant, or as doubting of ſome propoſition they have either embraced formerly, or are at preſent inclined to; or laſtly, they do with aſſurance hold and profeſs without ever having examined, and being convinced by well-grounded arguments.

The firſt of theſe are in the beſt ſtate of the three, by having their minds yet in their perfect freedom and indifferency; the likelier to purſue truth the better, having no bias yet clapped on to miſlead them.

§. 35. For ignorance, with an indifferency for truth, is nearer to it than opinion with ungrounded inclination, which is the great ſource of errour; and they are more in danger to go out of the way, who are marching under the conduct of a guide, that it is an hundred to one will miſlead them, than he that has not yet taken a ſtep, and is likelier to be prevailed on to inquire after the right way. The laſt of the three ſorts are in the worſt condition of all; for if a man can be perſuaded and fully aſſured of any thing for a truth, without having examined, what is there that he may not embrace for truth? and if he has given himſelf up to believe a lye, what means is there left to recover one who can be aſſured without examining? To the other two this I crave leave to ſay, that as he that is ignorant is in the beſt ſtate of the two, ſo he ſhould purſue truth in a method ſuitable to that ſtate; i. e. by inquiring directly into the nature of the thing itſelf, without minding the opinions of others, or troubling himſelf with their queſtions or diſputes about it; but to ſee what he himſelf can, ſincerely ſearching after truth, find out. He that proceeds upon other principles in his inquiry into any ſciences, though he be reſolved to examine them and judge of them freely, does yet at leaſt put himſelf on

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that ſide, and poſt himſelf in a party which he will not quit till he be beaten out; by which the mind is inſenſibly engaged to make what defence it can, and ſo is unawares biaſſed. I do not ſay but a man ſhould embrace ſome opinion when he has examined, elſe he examines to no purpoſe; but the ſureſt and ſafeſt way is to have no opinion at all till he has examined, and that without any the leaſt regard to the opinions or ſyſtems of other men about it. For example, were it my buſineſs to underſtand phyſic, would not the ſafe and readier way be to conſult nature herſelf, and inform myſelf in the hiſtory of diſeaſes and their cures; than eſpouſing the principles of the dogmatiſts, methodiſts, or chemiſts, to engage in all the diſputes concerning either of thoſe ſyſtems, and ſuppoſe it to be true, till I have tried what they can ſay to beat me out of it? Or, ſuppoſing that Hippocrates, or any other book, infallibly contains the whole art of phyſic; would not the direct way be to ſtudy, read, and conſider that book, weigh and compare the parts of it to find the truth, rather than eſpouſe the doctrines of any party? who, though they acknowledge his authority, have already interpreted and wire-drawn all his text to their own ſenſe; the tincture whereof, when I have imbibed, I am more in danger to miſunderſtand his true meaning, than if I had come to him with a mind unprepoſſeſſed by doctors and commentators of my ſect; whoſe reaſonings, interpretation, and language, which I have been uſed to, will of courſe make all chime that way, and make another, and perhaps the genuine meaning of the author ſeem harſh, ſtrained, and uncouth to me. For words having naturally none of their own, carry that ſignification to the hearer, that he is uſed to put upon them, whatever be the ſenſe of him that uſes them. This, I think, is viſibly ſo; and if it be, he that begins to have any doubt of any of his tenets, which he received without examination, ought, as much as he can, to put himſelf wholly into this ſtate of ignorance in reference to that queſtion; and throwing wholly by all his former notions, and the opinions of others, examine, with a perfect indifferency, the queſtion in its ſource; without any inclination to either ſide, or any

regard

regard to his or others unexamined opinions. This I own is no eaſy thing to do; but I am not inquiring the eaſy way to opinion, but the right way to truth; which they muſt follow who will deal fairly with their own underſtandings and their own ſouls.

Queſtion. §. 36. The indifferency that I here propoſe will alſo enable them to ſtate the queſtion right, which they are in doubt about, without which they can never come to a fair and clear deciſion of it.

Perſeverance. §. 37. Another fruit from this indifferency, and the conſidering things in themſelves abſtract from our own opinions and other men's notions and diſcourſes on them, will be, that each man will purſue his thoughts in that method which will be moſt agreeable to the nature of the thing, and to his apprehenſion of what it ſuggeſts to him; in which he ought to proceed with regularity and conſtancy, until he come to a well-grounded reſolution wherein he may acquieſce. If it be objected that this will require every man to be a ſcholar, and quit all his other buſineſs, and betake himſelf wholly to ſtudy; I anſwer, I propoſe no more to any one than he has time for. Some men's ſtate and condition requires no great extent of knowledge; the neceſſary proviſion for life ſwallows the greateſt part of their time. But one man's want of leiſure is no excuſe for the oſcitancy and ignorance of thoſe who have time to ſpare; and every one has enough to get as much knowledge as is required and expected of him, and he that does not that, is in love with ignorance, and is accountable for it.

Preſumption. §. 38. The variety of diſtempers in men's minds is as great as of thoſe in their bodies; ſome are epidemic, few eſcape them; and every one too, if he would look into himſelf, would find ſome defect of his particular genius. There is ſcarce any one without ſome idioſyncraſy that he ſuffers by. This man preſumes upon his parts, that they will not fail him at time of need; and ſo thinks it ſuperfluous labour to make any proviſion before-hand. His underſtanding is to him like Fortunatus's purſe, which is always to furniſh him, without ever putting any thing into

into it before-hand; and so he sits still satisfied, without endeavouring to store his understanding with knowledge. It is the spontaneous product of the country, and what need of labour in tillage? Such men may spread their native riches before the ignorant; but they were best not come to stress and trial with the skilful. We are born ignorant of every thing. The superficies of things that surround them, make impressions on the negligent, but nobody penetrates into the inside without labour, attention, and industry. Stones and timber grow of themselves, but yet there is no uniform pile with symmetry and convenience to lodge in without toil and pains. God has made the intellectual world harmonious and beautiful without us; but it will never come into our heads all at once; we must bring it home piece-meal, and there set it up by our own industry, or else we shall have nothing but darkness and a chaos within, whatever order and light there be in things without us.

Despondency.

§. 39. On the other side, there are others that depress their own minds, despond at the first difficulty, and conclude that the getting an insight in any of the sciences, or making any progress in knowledge farther than serves their ordinary business, is above their capacities. These sit still, because they think they have not legs to go; as the others I last mentioned do, because they think they have wings to fly, and can soar on high when they please. To these latter one may for answer apply the proverb, "Use legs and have legs." Nobody knows what strength of parts he has till he has tried them. And of the understanding one may most truly say, that its force is greater generally than it thinks, till it is put to it. "Viresque acquirit eundo."

And therefore the proper remedy here is but to set the mind to work, and apply the thoughts vigorously to the business; for it holds in the struggles of the mind as in those of war, "Dum putant se vincere vicêre;" A persuasion that we shall overcome any difficulties that we meet with in the sciences, seldom fails to carry us through them. Nobody knows the strength of his

mind, and the force of ſteady and regular application, till he has tried. This is certain, he that ſets out upon weak legs, will not only go farther, but grow ſtronger too than one, who with a vigorous conſtitution and firm limbs, only ſits ſtill.

Something of kin to this, men may obſerve in themſelves, when the mind frights itſelf (as it often does) with any thing reflected on in groſs, and tranſiently viewed confuſedly, and at a diſtance. Things thus offered to the mind, carry the ſhow of nothing but difficulty in them, and are thought to be wrapt up in impenetrable obſcurity. But the truth is, theſe are nothing but ſpectres that the underſtanding raiſes to itſelf to flatter its own lazineſs. It ſees nothing diſtinctly in things remote, and in a huddle; and therefore concludes too faintly, that there is nothing more clear to be diſcovered in them. It is but to approach nearer, and that miſt of our own raiſing that inveloped them will remove; and thoſe that in that miſt appeared hideous giants not to be grappled with, will be found to be of the ordinary and natural ſize and ſhape. Things, that in a remote and confuſed view ſeem very obſcure, muſt be approached by gentle and regular ſteps; and what is moſt viſible, eaſy and obvious in them firſt conſidered. Reduce them into their diſtinct parts; and then in their due order bring all that ſhould be known concerning every one of thoſe parts into plain and ſimple queſtions; and then what was thought obſcure, perplexed, and too hard for our weak parts, will lay itſelf open to the underſtanding in a fair view, and let the mind into that which before it was awed with, and kept at a diſtance from, as wholly myſterious. I appeal to my reader's experience, whether this has never happened to him, eſpecially when, buſy on one thing, he has occaſionally reflected on another. I aſk him whether he has never thus been ſcared with a ſudden opinion of mighty difficulties, which yet have vaniſhed, when he has ſeriouſly and methodically applied himſelf to the conſideration of this ſeeming terrible ſubject; and there has been no other matter of aſtoniſhment left, but that he amuſed himſelf with ſo diſcouraging a proſpect of his own raiſ-

ing, about a matter, which in the handling was found to have nothing in it more ſtrange nor intricate than ſeveral other things which he had long ſince, and with eaſe maſtered. This experience would teach us how to deal with ſuch bugbears another time, which ſhould rather ſerve to excite our vigour than enervate our induſtry. The ſureſt way for a learner in this, as in all other caſes, is not to advance by jumps and large ſtrides; let that which he ſets himſelf to learn next, be indeed the next; i. e. as nearly conjoined with what he knows already as is poſſible; let it be diſtinct but not remote from it: Let it be new, and what he did not know before, that the underſtanding may advance; but let it be as little at once as may be, that its advances may be clear and ſure. All the ground that it gets this way it will hold. This diſtinct gradual growth in knowledge is firm and ſure; it carries its own light with it in every ſtep of its progreſſion in an eaſy and orderly train; than which there is nothing of more uſe to the underſtanding. And though this perhaps may ſeem a very ſlow and lingering way to knowledge; yet I dare confidently affirm, that whoever will try it in himſelf, or any one he will teach, ſhall find the advances greater in this method, than they would in the ſame ſpace of time have been in any other he could have taken. The greateſt part of true knowledge lies in a diſtinct perception of things in themſelves diſtinct. And ſome men give more clear light and knowledge by the bare diſtinct ſtating of a queſtion, than others by talking of it in groſs, whole hours together. In this, they who ſo ſtate a queſtion, do no more but ſeparate and diſentangle the parts of it one from another, and lay them, when ſo diſentangled, in their due order. This often, without any more ado, reſolves the doubt, and ſhows the mind where the truth lies. The agreement or diſagreement of the ideas in queſtion, when they are once ſeparated and diſtinctly conſidered, is, in many caſes, preſently perceived, and thereby clear and laſting knowledge gained; whereas things in groſs taken up together, and ſo lying together in confuſion, can produce in the mind but a confuſed, which in effect is no, knowledge; or at leaſt, when it

comes to be examined and made use of, will prove little better than none. I therefore take the liberty to repeat here again what I have said elsewhere, that in learning any thing as little should be proposed to the mind at once as is possible; and, that being understood and fully mastered, to proceed to the next adjoining part yet unknown; simple, unperplexed proposition belonging to the matter in hand, and tending to the clearing what is principally designed.

Analogy. §. 40. Analogy is of great use to the mind in many cases, especially in natural philosophy; and that part of it chiefly which consists in happy and successful experiments. But here we must take care that we keep ourselves within that wherein the analogy consists. For example, the acid oil of vitriol is found to be good in such a case, therefore the spirit of nitre or vinegar may be used in the like case. If the good effect of it be owing wholly to the acidity of it, the trial may be justified; but if there be something else besides the acidity in the oil of vitriol, which produces the good we desire in the case; we mistake that for analogy, which is not, and suffer our understanding to be misguided by a wrong supposition of analogy where there is none.

Association. §. 41. Though I have, in the second book of my essay concerning human understanding, treated of the association of ideas; yet having done it there historically, as giving a view of the understanding in this as well as its several other ways of operating, rather than designing there to inquire into the remedies that ought to be applied to it; it will, under this latter consideration, afford other matter of thought to those who have a mind to instruct themselves thoroughly in the right way of conducting their understandings; and that the rather, because this, if I mistake not, is as frequent a cause of mistake and errour in us, as perhaps any thing else that can be named; and is a disease of the mind as hard to be cured as any; it being a very hard thing to convince any one that things are not so, and naturally so, as they constantly appear to him.

By this one eaſy and unheeded miſcarriage of the underſtanding, ſandy and looſe foundations become infallible principles, and will not ſuffer themſelves to be touched or queſtioned; ſuch unnatural connexions become by cuſtom as natural to the mind as ſun and light, fire and warmth go together, and ſo ſeem to carry with them as natural an evidence as ſelf-evident truths themſelves. And where then ſhall one with hopes of ſucceſs begin the cure? Many men firmly embrace falſhood for truth; not only becauſe they never thought otherwiſe; but alſo becauſe, thus blinded as they have been from the beginning, they never could think otherwiſe; at leaſt without a vigour of mind able to conteſt the empire of habit, and look into its own principles; a freedom which few men have the notion of in themſelves, and fewer are allowed the practice of by others; it being the great art and buſineſs of the teachers and guides in moſt ſects to ſuppreſs, as much as they can, this fundamental duty which every man owes himſelf, and is the firſt ſteady ſtep towards right and truth in the whole train of his actions and opinions. This would give one reaſon to ſuſpect, that ſuch teachers are conſcious to themſelves of the falſhood or weakneſs of the tenets they profeſs, ſince they will not ſuffer the grounds whereon they are built to be examined; whereas thoſe who ſeek truth only, and deſire to own and propagate nothing elſe, freely expoſe their principles to the teſt; are pleaſed to have them examined; give men leave to reject them if they can; and if there be any thing weak and unſound in them, are willing to have it detected, that they themſelves, as well as others, may not lay any ſtreſs upon any received propoſition beyond what the evidence of its truths will warrant and allow.

There is, I know, a great fault among all ſorts of people of principling their children and ſcholars; which at laſt, when looked into, amounts to no more, but making them imbibe their teacher's notions and tenets by an implicit faith, and firmly to adhere to them whether true or falſe. What colours may be given to this, or of what uſe it may be when practiſed upon the vulgar, deſtined to labour, and given up to the ſervice of

their bellies, I will not here inquire. But as to the ingenuous part of mankind, whoſe condition allows them leiſure, and letters, and inquiry after truth; I can ſee no other right way of principling them, but to take heed, as much as may be, that in their tender years, ideas, that have no natural coheſion, come not to be united in their heads; and that this rule be often inculcated to them to be their guide in the whole courſe of their lives and ſtudies, viz. that they never ſuffer any ideas to be joined in their underſtandings, in any other or ſtronger combination than what their own nature and correſpondence give them; and that they often examine thoſe that they find linked together in their minds; whether this aſſociation of ideas be from the viſible agreement that is in the ideas themſelves, or from the habitual and prevailing cuſtom of the mind joining them thus together in thinking.

This is for caution againſt this evil, before it be thoroughly riveted by cuſtom in the underſtanding; but he, that would cure it when habit has eſtabliſhed it, muſt nicely obſerve the very quick and almoſt imperceptible motions of the mind in its habitual actions. What I have ſaid in another place about the change of the ideas of ſenſe into thoſe of judgment, may be proof of this. Let any one not ſkilled in painting be told when he ſees bottles and tobacco-pipes, and other things ſo painted, as they are in ſome places ſhown; that he does not ſee protuberances, and you will not convince him but by the touch: He will not believe that by an inſtantaneous legerdemain of his own thoughts, one idea is ſubſtituted for another. How frequent inſtances may one meet with of this in the arguings of the learned, who not ſeldom, in two ideas that they have been accuſtomed to join in their minds, ſubſtitute one for the other; and, I am apt to think, often without perceiving it themſelves? This, whilſt they are under the deceit of it, makes them incapable of conviction, and they applaud themſelves as zealous champions for truth, when indeed they are contending for errour. And the confuſion of two different ideas, which a cuſtomary connexion of them in their minds hath made to them almoſt one,

one, fills their head with falſe views, and their reaſonings with falſe conſequences.

Fallacies.

§. 42. Right underſtanding conſiſts in the diſcovery and adherence to truth, and that in the perception of the viſible or probable agreement or diſagreement of ideas, as they are affirmed and denied one of another. From whence it is evident, that the right uſe and conduct of the underſtanding, whoſe buſineſs is purely truth and nothing elſe, is, that the mind ſhould be kept in a perfect indifferency, not inclining to either ſide, any farther than evidence ſettles it by knowledge, or the overbalance of probability gives it the turn of aſſent and belief; but yet it is very hard to meet with any diſcourſe wherein one may not perceive the author not only maintain (for that is reaſonable and fit) but inclined and biaſſed to one ſide of the queſtion, with marks of a deſire that that ſhould be true. If it be aſked me, how authors who have ſuch a bias and lean to it may be diſcovered? I anſwer, by obſerving how in their writings or arguings they are often led by their inclinations to change the ideas of the queſtion, either by changing the terms, or by adding and joining others to them, whereby the ideas under conſideration are ſo varied, as to be more ſerviceable to their purpoſe, and to be thereby brought to an eaſier and nearer agreement, or more viſible and remoter diſagreement one with another. This is plain and direct ſophiſtry; but I am far from thinking, that wherever it is found it is made uſe of with deſign to deceive and miſlead the readers. It is viſible that men's prejudices and inclinations by this way impoſe often upon themſelves; and their affection for truth, under their prepoſſeſſion in favour of one ſide, is the very thing that leads them from it. Inclination ſuggeſts and ſlides into their diſcourſe favourable terms, which introduce favourable ideas; till at laſt by this means that is concluded clear and evident, thus dreſſed up, which, taken in its native ſtate, by making uſe of none but the preciſe determined ideas, would find no admittance at all. The putting theſe gloſſes on what they affirm, theſe, as they are thought, handſome, eaſy and graceful explications of

what they are diſcourſing on, is ſo much the character of what is called and eſteemed writing well, that it is very hard to think that authors will ever be perſuaded to leave what ſerves ſo well to propagate their opinions, and procure themſelves credit in the world, for a more jejune and dry way of writing, by keeping to the ſame terms preciſely annexed to the ſame ideas; a ſour and blunt ſtiffneſs tolerable in mathematicians only, who force their way, and make truth prevail by irreſiſtible demonſtration.

But yet if authors cannot be prevailed with to quit the looſer, though more inſinuating ways of writing; if they will not think fit to keep cloſe to truth and inſtruction by unvaried terms, and plain unſophiſticated arguments; yet it concerns readers not to be impoſed on by fallacies, and the prevailing ways of inſinuation. To do this, the ſureſt and moſt effectual remedy is to fix in the mind the clear and diſtinct ideas of the queſtion ſtripped of words; and ſo likewiſe in the train of argumentation, to take up the author's ideas, neglecting his words, obſerving how they connect or ſeparate thoſe in the queſtion. He that does this will be able to caſt off all that is ſuperfluous; he will ſee what is pertinent, what coherent, what is direct to, what ſlides by, the queſtion. This will readily ſhow him all the foreign ideas in the diſcourſe, and where they were brought in; and though they perhaps dazzled the writer; yet he will perceive that they give no light nor ſtrength to his reaſonings.

This, though it be the ſhorteſt and eaſieſt way of reading books with profit, and keeping one's ſelf from being miſled by great names or plauſible diſcourſes; yet it being hard and tedious to thoſe who have not accuſtomed themſelves to it; it is not to be expected that every one (amongſt thoſe few who really purſue truth) ſhould this way guard his underſtanding from being impoſed on by the wilful, or at leaſt undeſigned ſophiſtry, which creeps into moſt of the books of argument. They, that write againſt their conviction, or that, next to them, are reſolved to maintain the tenets of a party they were engaged in, cannot be ſuppoſed to reject any arms that

that may help to defend their cause, and therefore such should be read with the greatest caution. And they, who write for opinions they are sincerely persuaded of, and believe to be true, think they may so far allow themselves to indulge their laudable affection to truth, as to permit their esteem of it to give it the best colours, and set it off with the best expressions and dress they can, thereby to gain it the easiest entrance into the minds of their readers, and fix it deepest there.

One of those being the state of mind we may justly suppose most writers to be in, it is fit their readers, who apply to them for instruction, should not lay by that caution which becomes a sincere pursuit of truth, and should make them always watchful against whatever might conceal or misrepresent it. If they have not the skill of representing to themselves the author's sense by pure ideas separated from sounds, and thereby divested of the false lights and deceitful ornaments of speech; this yet they should do, they should keep the precise question steadily in their minds, carry it along with them through the whole discourse, and suffer not the least alteration in the terms, either by addition, subtraction, or substituting any other. This every one can do who has a mind to it; and he that has not a mind to it, it is plain, makes his understanding only the warehouse of other men's lumber; I mean false and unconcluding reasonings, rather than a repository of truth for his own use; which will prove substantial, and stand him in stead, when he has occasion for it. And whether such an one deals fairly by his own mind, and conducts his own understanding right, I leave to his own understanding to judge.

Fundamental verities.

§. 43. The mind of man being very narrow, and so slow in making acquaintance with things, and taking in new truths, that no one man is capable, in a much longer life than ours, to know all truths; it becomes our prudence, in our search after knowledge, to employ our thoughts about fundamental and material questions, carefully avoiding those that are trifling, and not suffering ourselves to be diverted from our main even purpose, by those that are merely

merely incidental. How much of many young men's time is thrown away in purely logical inquiries, I need not mention. This is no better than if a man, who was to be a painter, ſhould ſpend all his time in examining the threads of the ſeveral cloths he is to paint upon, and counting the hairs of each pencil and bruſh he intends to uſe in the laying on of his colours. Nay, it is much worſe than for a young painter to ſpend his apprenticeſhip in ſuch uſeleſs niceties; for he, at the end of all his pains to no purpoſe, finds that it is not painting, nor any help to it, and ſo is really to no purpoſe: whereas men deſigned for ſcholars have often their heads ſo filled and warmed with diſputes on logical queſtions, that they take thoſe airy uſeleſs notions for real and ſubſtantial knowledge, and think their underſtandings ſo well furniſhed with ſcience, that they need not look any farther into the nature of things, or deſcend to the mechanical drudgery of experiment and inquiry. This is ſo obvious a miſmanagement of the underſtanding, and that in the profeſſed way to knowledge, that it could not be paſſed by; to which might be joined abundance of queſtions, and the way of handling of them in the ſchools. What faults in particular of this kind, every man is, or may be guilty of, would be infinite to enumerate; it ſuffices to have ſhown that ſuperficial and ſlight diſcoveries and obſervations that contain nothing of moment in themſelves, nor ſerve as clues to lead us into farther knowledge, ſhould not be thought worth our ſearching after.

There are fundamental truths that lie at the bottom, the baſis upon which a great many others reſt, and in which they have their conſiſtency. Theſe are teeming truths, rich in ſtore, with which they furniſh the mind, and, like the lights of heaven, are not only beautiful and entertaining in themſelves, but give light and evidence to other things, that without them could not be ſeen or known. Such is that admirable diſcovery of Mr. Newton, that all bodies gravitate to one another, which may be counted as the baſis of natural philoſophy; which, of what uſe it is to the underſtanding of the great frame of our ſolar ſyſtem, he has to the aſtoniſhment

niſhment of the learned world ſhown; and how much farther it would guide us in other things, if rightly purſued, is not yet known. Our Savior's great rule, that "we ſhould love our neighbour as ourſelves," is ſuch a fundamental truth for the regulating human ſociety, that, I think, by that alone, one might without difficulty determine all the caſes and doubts in ſocial morality. Theſe and ſuch as theſe are the truths we ſhould endeavour to find out, and ſtore our minds with. Which leads me to another thing in the conduct of the underſtanding that is no leſs neceſſary, viz.

Bottoming.

§. 44. To accuſtom ourſelves, in any queſtion propoſed, to examine and find out upon what it bottoms. Moſt of the difficulties that come in our way, when well conſidered and traced, lead us to ſome propoſition, which, known to be true, clears the doubt, and gives an eaſy ſolution of the queſtion; whilſt topical and ſuperficial arguments, of which there is ſtore to be found on both ſides, filling the head with variety of thoughts, and the mouth with copious diſcourſe, ſerve only to amuſe the underſtanding, and entertain company without coming to the bottom of the queſtion, the only place of reſt and ſtability for an inquiſitive mind, whoſe tendency is only to truth and knowledge.

For example, if it be demanded, whether the grand ſeignior can lawfully take what he will from any of his people? This queſtion cannot be reſolved without coming to a certainty, whether all men are naturally equal; for upon that it turns; and that truth well ſettled in the underſtanding, and carried in the mind through the various debates concerning the various rights of men in ſociety, will go a great way in putting an end to them, and ſhowing on which ſide the truth is.

Transferring of thoughts.

§. 45. There is ſcarce any thing more for the improvement of knowledge, for the eaſe of life, and the diſpatch of buſineſs, than for a man to be able to diſpoſe of his own thoughts; and there is ſcarce any thing harder in the whole conduct of the underſtanding than to get a full maſtery over it. The mind, in a waking man, has always ſome object

object that it applies itſelf to; which, when we are lazy or unconcerned, we can eaſily change, and at pleaſure transfer our thoughts to another, and from thence to a third, which has no relation to either of the former. Hence men forwardly conclude, and frequently ſay, nothing is ſo free as thought, and it were well it were ſo; but the contrary will be found true in ſeveral inſtances; and there are many caſes wherein there is nothing more reſty and ungovernable than our thoughts: They will not be directed what objects to purſue, nor be taken off from thoſe they have once fixed on; but run away with a man in purſuit of thoſe ideas they have in view, let him do what he can.

I will not here mention again what I have above taken notice of, how hard it is to get the mind, narrowed by a cuſtom of thirty or forty years ſtanding to a ſcanty collection of obvious and common ideas, to enlarge itſelf to a more copious ſtock, and grow into an acquaintance with thoſe that would afford more abundant matter of uſeful contemplation; it is not of this I am here ſpeaking. The inconveniency I would here repreſent, and find a remedy for, is the difficulty there is ſometimes to transfer our minds from one ſubject to another, in caſes where the ideas are equally familiar to us.

Matters, that are recommended to our thoughts by any of our paſſions, take poſſeſſion of our minds with a kind of authority, and will not be kept out or diſlodged; but, as if the paſſion that rules were, for the time, the ſheriff of the place, and came with all the poſſe, the underſtanding is ſeized and taken with the object it introduces, as if it had a legal right to be alone conſidered there. There is ſcarce any body, I think, of ſo calm a temper who hath not ſome time found this tyranny on his underſtanding, and ſuffered under the inconvenience of it. Who is there almoſt, whoſe mind, at ſome time or other, love or anger, fear or grief, has not ſo faſtened to ſome clog, that it could not turn itſelf to any other object? I call it a clog, for it hangs upon the mind ſo as to hinder its vigour and activity in the purſuit of other contemplations; and advances itſelf little or not at all in the knowledge of the thing which it ſo cloſely hugs

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and conſtantly pores on. Men thus poſſeſſed, are ſometimes as if they were ſo in the worſe ſenſe, and lay under the power of an inchantment. They ſee not what paſſes before their eyes; hear not the audible diſcourſe of the company; and when by any ſtrong application to them they are rouſed a little, they are like men brought to themſelves from ſome remote region; whereas in truth they come no farther than their ſecret cabinet within, where they have been wholly taken up with the puppet, which is for that time appointed for their entertainment. The ſhame that ſuch dumps cauſe to well-bred people, when it carries them away from the company, where they ſhould bear a part in the converſation, is a ſufficient argument, that it is a fault in the conduct of our underſtanding, not to have that power over it as to make uſe of it to thoſe purpoſes, and on thoſe occaſions wherein we have need of its aſſiſtance. The mind ſhould be always free and ready to turn itſelf to the variety of objects that occur, and allow them as much conſideration as ſhall for that time be thought fit. To be engroſſed ſo by one object, as not to be prevailed on to leave it for another that we judge fitter for our contemplation, is to make it of no uſe to us. Did this ſtate of mind remain always ſo, every one would, without ſcruple, give it the name of perfect madneſs; and whilſt it does laſt, at whatever intervals it returns, ſuch a rotation of thoughts about the ſame object no more carries us forward towards the attainment of knowledge, than getting upon a mill-horſe whilſt he jogs on in his circular track would carry a man a journey.

I grant ſomething muſt be allowed to legitimate paſſions, and to natural inclinations. Every man, beſides occaſional affections, has beloved ſtudies, and thoſe the mind will more cloſely ſtick to; but yet it is beſt that it ſhould be always at liberty, and under the free diſpoſal of the man, and to act how and upon what he directs. This we ſhould endeavour to obtain, unleſs we would be content with ſuch a flaw in our underſtanding, that ſometimes we ſhould be as it were without it; for it is very little better than ſo in caſes where we cannot make

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uſe of it to thoſe purpoſes we would, and which ſtand in preſent need of it.

But before fit remedies can be thought on for this diſeaſe, we muſt know the ſeveral cauſes of it, and thereby regulate the cure, if we will hope to labour with ſucceſs.

One we have already inſtanced in, whereof all men that reflect have ſo general a knowledge, and ſo often an experience in themſelves, that nobody doubts of it. A prevailing paſſion ſo pins down our thoughts to the object and concern of it, that a man paſſionately in love cannot bring himſelf to think of his ordinary affairs, or a kind mother, drooping under the loſs of a child, is not able to bear a part as ſhe was wont in the diſcourſe of the company or converſation of her friends.

But though paſſion be the moſt obvious and general, yet it is not the only cauſe that binds up the underſtanding, and confines it for the time to one object, from which it will not be taken off.

Beſides this, we may often find that the underſtanding, when it has a while employed itſelf upon a ſubject which either chance, or ſome ſlight accident, offered to it, without the intereſt or recommendation of any paſſion; works itſelf into a warmth, and by degrees gets into a career, wherein, like a bowl down a hill, it increaſes its motion by going, and will not be ſtopped or diverted; though, when the heat is over, it ſees all this earneſt application was about a trifle not worth a thought, and all the pains employed about it loſt labour.

There is a third ſort, if I miſtake not, yet lower than this; it is a ſort of childiſhneſs, if I may ſo ſay, of the underſtanding, wherein, during the fit, it plays with and dandles ſome inſignificant puppet to no end, nor with any deſign at all, and yet cannot eaſily be got off from it. Thus ſome trivial ſentence, or a ſcrap of poetry, will ſometimes get into men's heads, and make ſuch a chiming there, that there is no ſtilling of it; no peace to be obtained, nor attention to any thing elſe, but this impertinent gueſt will take up the mind and poſſeſs the thoughts in ſpite of all endeavours to get rid of it. Whether every one hath experimented in them-

themselves this troublesome intrusion of some frisking ideas which thus importune the understanding, and hinder it from being better employed, I know not. But persons of very good parts, and those more than one, I have heard speak and complain of it themselves. The reason I have to make this doubt, is from what I have known in a case something of kin to this, though much odder, and that is of a sort of visions that some people have lying quiet, but perfectly awake, in the dark, or with their eyes shut. It is a great variety of faces, most commonly very odd ones, that appear to them in a train one after another; so that having had just the sight of the one, it immediately passes away to give place to another, that the same instant succeeds, and has as quick an exit as its leader; and so they march on in a constant succession; nor can any one of them by any endeavour be stopped or retained beyond the instant of its appearance, but is thrust out by its follower, which will have its turn. Concerning this fantastical phænomenon I have talked with several people, whereof some have been perfectly acquainted with it, and others have been so wholly strangers to it, that they could hardly be brought to conceive or believe it. I knew a lady of excellent parts, who had got past thirty without having ever had the least notice of any such thing; she was so great a stranger to it, that when she heard me and another talking of it, could scarce forbear thinking we bantered her; but some time after drinking a large dose of dilute tea, (as she was ordered by a physician) going to bed, she told us at next meeting, that she had now experimented what our discourse had much ado to persuade her of. She had seen a great variety of faces in a long train, succeeding one another, as we had described; they were all strangers and intruders, such as she had no acquaintance with before, nor sought after then; and as they came of themselves they went too; none of them stayed a moment, nor could be detained by all the endeavours she could use, but went on in their solemn procession, just appeared and then vanished. This odd phænomenon seems to have a mechanical cause, and to depend upon

upon the matter and motion of the blood or animal ſpirits.

When the fancy is bound by paſſion, I know no way to ſet the mind free and at liberty, to proſecute what thoughts the man would make choice of, but to allay the preſent paſſion, or counterbalance it with another; which is an art to be got by ſtudy, and acquaintance with the paſſions.

Thoſe who find themſelves apt to be carried away with the ſpontaneous current of their own thoughts, not excited by any paſſion or intereſt, muſt be very wary and careful in all the inſtances of it to ſtop it, and never humour their minds in being thus triflingly buſy. Men know the value of their corporeal liberty, and therefore ſuffer not willingly fetters and chains to be put upon them. To have the mind captivated is, for the time, certainly the greater evil of the two, and deſerves our utmoſt care and endeavours to preſerve the freedom of our better part. In this caſe our pains will not be loſt; ſtriving and ſtruggling will prevail, if we conſtantly, on all ſuch occaſions, make uſe of it. We muſt never indulge theſe trivial attentions of thought; as ſoon as we find the mind makes itſelf a buſineſs of nothing, we ſhould immediately diſturb and check it, introduce new and more ſerious conſiderations, and not leave till we have beaten it off from the purſuit it was upon. This, at firſt, if we have let the contrary practice grow to an habit, will perhaps be difficult; but conſtant endeavours will by degrees prevail, and at laſt make it eaſy. And when a man is pretty well advanced, and can command his mind off at pleaſure from incidental and undeſigned purſuits, it may not be amiſs for him to go on farther, and make attempts upon meditations of greater moment, that at the laſt he may have a full power over his own mind, and be ſo fully maſter of his own thoughts, as to be able to transfer them from one ſubject to another, with the ſame eaſe that he can lay by any thing he has in his hand, and take ſomething elſe that he has a mind to in the room of it. This liberty of mind is of great uſe both in buſineſs and ſtudy,

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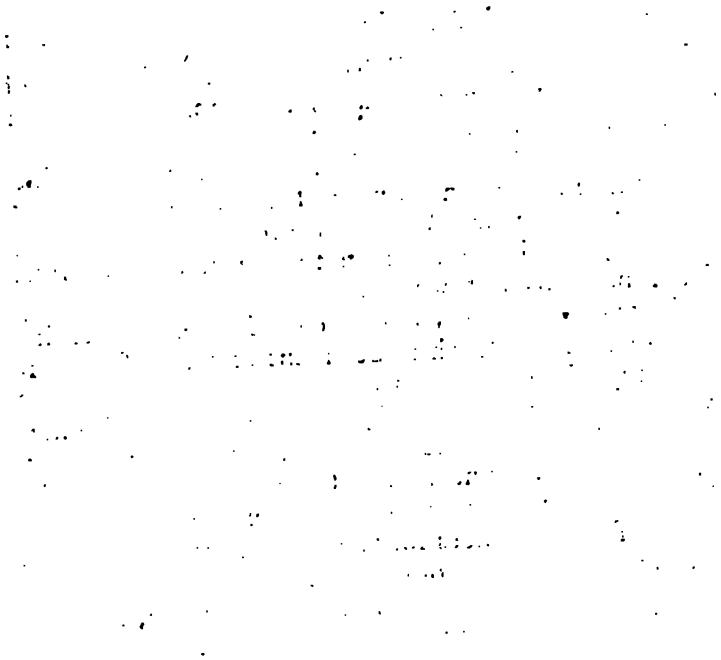
and he that has got it will have no ſmall advantage of eaſe and diſpatch in all that is the choſen and uſeful employment of his underſtanding.

The third and laſt way which I mentioned the mind to be ſometimes taken up with, I mean the chiming of ſome particular words or ſentence in the memory, and, as it were, making a noiſe in the head, and the like, ſeldom happens but when the mind is lazy, or very looſely and negligently employed. It were better indeed to be without ſuch impertinent and uſeleſs repetitions: any obvious idea, when it is roving careleſsly at a venture, being of more uſe, and apter to ſuggeſt ſomething worth conſideration, than the inſignificant buzz of purely empty ſounds. But ſince the rouſing of the mind, and ſetting the underſtanding on work with ſome degrees of vigour, does for the moſt part preſently ſet it free from theſe idle companions; it may not be amiſs, whenever we find ourſelves troubled with them, to make uſe of ſo profitable a remedy that is always at hand.



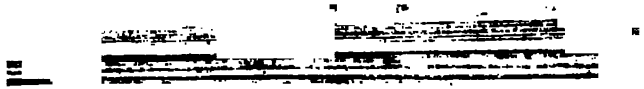
SOME THOUGHTS

CONCERNING

READING AND STUDY

FOR A

GENTLEMAN.



SOME THOUGHTS

CONCERNING

READING AND STUDY

FOR A

GENTLEMAN.

READING is for the improvement of the underſtanding.

The improvement of the underſtanding is for two ends; firſt, for our own increaſe of knowledge; ſecondly, to enable us to deliver and make out that knowledge to others.

The latter of theſe, if it be not the chief end of ſtudy in a gentleman; yet it is at leaſt equal to the other, ſince the greateſt part of his buſineſs and uſefulneſs in the world is by the influence of what he ſays, or writes to others.

The extent of our knowledge cannot exceed the extent of our ideas. Therefore he, who would be univerſally knowing, muſt acquaint himſelf with the objects of all ſciences. But this is not neceſſary to a gentleman, whoſe proper calling is the ſervice of his country; and ſo is moſt properly concerned in moral and political knowledge; and thus the ſtudies, which more immediately belong to his calling, are thoſe which treat of virtues and vices, of civil ſociety, and the arts of government; and will take in alſo law and hiſtory.

It is enough for a gentleman to be furniſhed with the ideas belonging to his calling, which he will find in the books that treat of the matters above-mentioned.

But the next ſtep towards the improvement of his underſtanding, muſt be, to obſerve the connexion of theſe ideas in the propoſitions, which thoſe books hold forth, and pretend to teach as truths; which till a man can judge, whether they be truths or no, his underſtanding is but little improved; and he doth but think and talk after the books that he hath read, without having any knowledge thereby. And thus men of much reading are greatly learned, but may be little knowing.

The third and laſt ſtep therefore, in improving the underſtanding, is to find out upon what foundation any propoſition advanced bottoms; and to obſerve the connexion of the intermediate ideas, by which it is joined to that foundation, upon which it is erected, or that principle, from which it is derived. This, in ſhort, is right reaſoning; and by this way alone true knowledge is to be got by reading and ſtudying.

When a man, by uſe, hath got this faculty of obſerving and judging of the reaſoning and coherence of what he reads, and how it proves what it pretends to teach; he is then, and not till then, in the right way of improving his underſtanding, and enlarging his knowledge by reading.

But that, as I have ſaid, being not all that a gentleman ſhould aim at in reading, he ſhould farther take care to improve himſelf in the art alſo of ſpeaking, that ſo he may be able to make the beſt uſe of what he knows.

The art of ſpeaking well conſiſts chiefly in two things, viz. perſpicuity and right reaſoning.

Perſpicuity conſiſts in the uſing of proper terms for the ideas or thoughts, which he would have paſs from his own mind into that of another man. It is this, that gives them an eaſy entrance; and it is with delight, that men hearken to thoſe, whom they eaſily underſtand; whereas what is obſcurely ſaid, dying as it is ſpoken, is uſually not only loſt, but creates a prejudice in the hearer, as if he that ſpoke knew not what he ſaid, or was afraid to have it underſtood.

The way to obtain this, is to read ſuch books as are allowed to be writ with the greateſt clearneſs and propriety,

priety, in the language that a man uſes. An author excellent in this faculty, as well as ſeveral others, is Dr. Tillotſon, late archbiſhop of Canterbury, in all that is publiſhed of his. I have choſen rather to propoſe this pattern, for the attainment of the art of ſpeaking clearly, than thoſe who give rules about it; ſince we are more apt to learn by example, than by direction. But if any one hath a mind to conſult the maſters in the art of ſpeaking and writing, he may find in Tully "De Oratore," and another treatiſe of his called, Orator; and in Quintilian's Inſtitutions; and Boileau's "Traité du Sublime"*; inſtructions concerning this, and the other parts of ſpeaking well.

Beſides perſpicuity, there muſt be alſo right reaſoning; without which, perſpicuity ſerves but to expoſe the ſpeaker. And for the attaining of this, I ſhould propoſe the conſtant reading of Chillingworth, who by his example will teach both perſpicuity, and the way of right reaſoning, better than any book that I know; and therefore will deſerve to be read upon that account over and over again; not to ſay any thing of his argument.

Beſides theſe books in Engliſh, Tully, Terence, Virgil, Livy, and Cæſar's Commentaries, may be read to form one's mind to a reliſh of a right way of ſpeaking and writing.

The books I have hitherto mentioned have been in order only to writing and ſpeaking well; not but that they will deſerve to be read upon other accounts.

The ſtudy of morality, I have above mentioned as that that becomes a gentleman; not barely as a man, but in order to his buſineſs as a gentleman. Of this there are books enough writ both by antient and modern philoſophers; but the morality of the goſpel doth ſo exceed them all, that, to give a man a full knowledge of true morality, I ſhall ſend him to no other book, but the New Teſtament. But if he hath a mind to ſee how far the heathen world carried that ſcience, and whereon they bottomed their ethics, he will be delightfully and

* That treatiſe is a tranſlation from Longinus.

profitably entertained in Tully's Treatiſes "De Officiis."

Politics contains two parts, very different the one from the other. The one, containing the original of ſocieties, and the riſe and extent of political power; the other, the art of governing men in ſociety.

The firſt of theſe hath been ſo bandied amongſt us, for theſe ſixty years backward, that one can hardly miſs books of this kind. Thoſe, which I think are moſt talked of in Engliſh, are the firſt book of Mr. Hooker's "Eccleſiaſtical Polity," and Mr. Algernon Sydney's "Diſcourſes concerning Government." The latter of theſe I never read. Let me here add, "Two Treatiſes of Government," printed in 1690*; and a Treatiſe of "Civil Polity," printed this year †. To theſe one may add, Puffendorf "De Officio Hominis & Civis," and "De Jure Naturali & Gentium;" which laſt is the beſt book of that kind.

As to the other part of politics, which concerns the art of government; that, I think, is beſt to be learned by experience and hiſtory, eſpecially that of a man's own country. And therefore I think an Engliſh gentleman ſhould be well verſed in the hiſtory of England, taking his riſe as far back as there are any records of it; joining with it the laws that were made in the ſeveral ages, as he goes along in his hiſtory; that he may obſerve from thence the ſeveral turns of ſtate, and how they have been produced. In Mr. Tyrrel's Hiſtory of England, he will find all along thoſe ſeveral authors which have treated of our affairs, and which he may have recourſe to, concerning any point, which either his curioſity or judgment ſhall lead him to inquire into.

With the hiſtory, he may alſo do well to read the antient lawyers; ſuch as Bracton, "Fleta," Henningham, "Mirrour of Juſtice," my lord Coke's "Second Inſtitutes," and the "Modus tenendi Parliamentum;" and others of that kind which he may find quoted in

* Theſe two treatiſes are written by Mr. Locke himſelf.

† "Civil Polity. A treatiſe concerning the nature of government," &c. London 1703, in 8vo. Written by Peter Paxton, M.D.

the late controverſies between Mr. Petit, Mr. Tyrrel, Mr. Atwood &c. with Dr. Brady; as alſo, I ſuppoſe, in Sedler's Treatiſe of "Rights of the Kingdom, and "Cuſtoms of our Anceſtors," whereof the firſt edition is the beſt; wherein he will find the ancient conſtitution of the government of England.

There are two volumes of "State Tracts" printed ſince the revolution, in which there are many things relating to the government of England *.

As for general hiſtory, Sir Walter Raleigh, and Dr. Howel, are books to be had. He, who hath a mind to launch farther into that ocean, may conſult Whear's "Methodus legendi Hiſtorias," of the laſt edition; which will direct him to the authors he is to read, and the method wherein he is to read them.

To the reading of hiſtory, chronology and geography are abſolutely neceſſary.

In geography, we have two general ones in Engliſh, Heylin and Moll; which is the beſt of them, I know not; having not been much converſant in either of them. But the laſt, I ſhould think to be of moſt uſe; becauſe of the new diſcoveries that are made every day, tending to the perfection of that ſcience. Though, I believe, that the countries, which Heylin mentions, are better treated of by him, bating what new diſcoveries ſince his time have added.

Theſe two books contain geography in general, but whether an Engliſh gentleman would think it worth his time to beſtow much pains upon that; though without it he cannot well underſtand a Gazette; it is certain he cannot well be without Camden's "Britannia," which is much enlarged in the laſt Engliſh edition. A good collection of maps is alſo neceſſary.

* We have now two collections of ſtate tracts; one, in two volumes in folio, printed in 1689 and 1692, contains ſeveral treatiſes relating to the government from the year 1660 to 1689; and the other, in three volumes in folio, printed in 1705, 1706, and 1707, is a "Collection of tracts, publiſhed on occaſion of the late revolution in 1688, and during the reign of K. William III." Theſe collections might have been made more complete and more convenient; eſpecially the firſt, which is extremely defective and incorrect.

To geography, books of travels may be added. In that kind, the collections made by our countrymen, Hackluyt and Purchas, are very good. There is alſo a very good collection made by Thevenot in folio, in French; and by Ramuzion, in Italian; whether tranſlated into Engliſh or no, I know not. There are alſo ſeveral good books of travels of Engliſhmen publiſhed, as Sandys, Roe, Brown, Gage, and Dampier.

There are alſo ſeveral voyages in French, which are very good, as Pyrard *, Bergeron †, Sagard ‡, Bernier ‖, &c. whether all of them are tranſlated into Engliſh, I know not.

There is at preſent a very good "collection of voyages and travels," never before in Engliſh, and ſuch as are out of print; now printing by Mr. Churchill ¶.

There are beſides theſe a vaſt number of other travels; a ſort of books that have a very good mixture of delight and uſefulneſs. To ſet them down all, would take up too much time and room. Thoſe I have mentioned are enough to begin with.

As to chronology, I think Helvicus the beſt for common uſe; which is not a book to be read, but to lie by, and be conſulted upon occaſion. He that hath a mind to look farther into chronology, may get Tallent's "Tables," and Strauchius's "Breviarium Temporum," and may to thoſe add Scaliger "De Emendatione Temporum," and Petavius, if he hath a mind to engage deeper in that ſtudy.

Thoſe, who are accounted to have writ beſt particular parts of our Engliſh hiſtory, are Bacon, of Henry

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* "Voyage de Francois Pyrard de Laval. Contenant ſa navigation aux Indes Orientales, Maldives, Moluques, Breſil." Paris 1619, 8vo, 3d edit.

† "Relation des voyages en Tartarie, &c. Le tout recueilli par Pierre Bergeron. Paris 1634, 8vo."

‡ "Le grand voyage des Hurons, ſitués en l'Amerique, &c. Par F. Gab. Sagard Theodat." Paris 1632, 8vo.

‖ "Memoires de l'empire du Grand Mogol, &c. par Francois Bernier. Paris 1670 & 1671, 3 vol. in 12mo."

¶ That collection of voyages and travels was publiſhed an. 1704, in 4 vol. in fol.

VII; and Herbert of Henry VIII. Daniel alſo is commended; and Burnet's "Hiſtory of the Reformation."

Mariana's "Hiſtory of Spain," and Thuanus's "Hiſtory of his own Time," and Philip de Comines; are of great and deſerved reputation.

There are alſo ſeveral French and Engliſh memoirs and collections, ſuch as la Rochefoucault, Melvil, Ruſhworth, &c. which give a great light to thoſe who have a mind to look into what hath paſt in Europe this laſt age.

To fit a gentleman for the conduct of himſelf, whether as a private man, or as intereſted in the government of his country, nothing can be more neceſſary than the knowledge of men; which, though it be to be had chiefly from experience, and, next to that, from a judicious reading of hiſtory; yet there are books that of purpoſe treat of human nature, which help to give an inſight into it. Such are thoſe treating of the paſſions, and how they are moved; whereof Ariſtotle in his ſecond book of Rhetoric hath admirably diſcourſed, and that in a little compaſs. I think this Rhetoric is tranſlated into Engliſh; if not, it may be had in Greek and Latin together.

La Bruyere's "Characters" are alſo an admirable piece of painting; I think it is alſo tranſlated out of French into Engliſh.

Satyrical writings alſo, ſuch as Juvenal, and Perſius, and above all Horace; though they paint the deformities of men, yet they thereby teach us to know them.

There is another uſe of reading, which is for diverſion and delight. Such are poetical writings, eſpecially dramatic, if they be free from prophaneneſs, obſcenity, and what corrupts good manners; for ſuch pitch ſhould not be handled.

Of all the books of fiction, I know none that equals "Cervantes's Hiſtory of Don Quixote" in uſefulneſs, pleaſantry, and a conſtant decorum. And indeed no writings can be pleaſant, which have not nature at the bottom, and are not drawn after her copy.

There is another ſort of books, which I had almoſt forgot, with which a gentleman's ſtudy ought to be well fur-

furniſhed, viz. dictionaries of all kinds. For the Latin tongue, Littleton, Cooper, Calepin, and Robert Stephens's "Theſaurus Linguæ Latinæ," and "Voſſii "Etymologicum Linguæ Latinæ." Skinner's "Lexi-"con Etymologicum," is an excellent one of that kind, for the Engliſh tongue. Cowel's "Interpreter" is uſeful for the law terms. Spelman's "Gloſſary" is a very uſeful and learned book. And Selden's "Titles of "Honour," a gentleman ſhould not be without. Baudrand hath a very good "Geographical Dictionary." And there are ſeveral hiſtorical ones, which are of uſe; as Lloyd's, Hoffman's, Moreri's. And Bayle's incomparable dictionary, is ſomething of the ſame kind. He that hath occaſion to look into books written in Latin ſince the decay of the Roman empire, and the purity of the Latin tongue, cannot be well without Du Cange's "Gloſſarium mediæ & infimæ Latinitatis."

Among the books above ſet down, I mentioned Voſſius's "Etymologicum Linguæ Latinæ;" all his works are lately printed in Holland in ſix tomes. They are fit books for a gentleman's library, containing very learned diſcourſes concerning all the ſciences.

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ELEMENTS

OF

NATURAL PHILOSOPHY.

ELEMENTS OF NATURAL PHILOSOPHY.

CHAP. I.

Of Matter and Motion.

MATTER is an extended ſolid ſubſtance; which being comprehended under diſtinct ſurfaces, makes ſo many particular diſtinct bodies.

Motion is ſo well known by the ſight and touch, that to uſe words to give a clear idea of it, would be in vain.

Matter, or body, is indifferent to motion, or reſt.

There is as much force required to put a body, which is in motion, as reſt; as there is to ſet a body, which is at reſt, into motion.

No parcel of matter can give itſelf either motion or reſt, and therefore a body at reſt will remain ſo eternally, except ſome external cauſe puts it in motion; and a body in motion will move eternally, unleſs ſome external cauſe ſtops it.

A body in motion will always move on in a ſtraight line, unleſs it be turned out of it by ſome external cauſe; becauſe a body can no more alter the determination of its motion, than it can begin it, alter or ſtop its motion itſelf.

The ſwiftneſs of motion is meaſured by diſtance of place, and length of time wherein it is performed. For inſtance, if A and B, bodies of equal or different bigneſs, move each of them an inch in the ſame time; their motions are equally ſwift; but if A moves two inches,

in

in the time whilſt B is moving one inch; the motion of A is twice as ſwift as that of B.

The quantity of motion is meaſured by the ſwiftneſs of the motion, and the quantity of the matter moved, taken together. For inſtance, if A, a body equal to B, moves as ſwift as B; then it hath an equal quantity of motion. If A hath twice as much matter as B, and moves equally as ſwift, it hath double the quantity of motion; and ſo in proportion.

It appears, as far as human obſervation reaches, to be a ſettled law of nature, that all bodies have a tendency, attraction, or gravitation towards one another.

The ſame force, applied to two different bodies, produces always the ſame quantity of motion in each of them. For inſtance, let a boat which with its lading is one ton, be tied at a diſtance to another veſſel, which with its lading is twenty-ſix tons; if the rope that ties them together be pulled, either in the leſs or bigger of theſe veſſels, the leſs of the two, in their approach one to another, will move twenty-ſix feet, while the other moves but one foot.

Wherefore the quantity of matter in the earth being twenty-ſix times more than in the moon; the motion in the moon towards the earth, by the common force of attraction, by which they are impelled towards one another, will be twenty-ſix times as faſt as in the earth; that is, the moon will move twenty-ſix miles towards the earth, for every mile the earth moves towards the moon.

Hence it is, that, in this natural tendency of bodies towards one another, that in the leſſer is conſidered as gravitation; and that in the bigger as attraction; becauſe the motion of the leſſer body (by reaſon of its much greater ſwiftneſs) is alone taken notice of.

This attraction is the ſtrongeſt, the nearer the attracting bodies are to each other; and, in different diſtances of the ſame bodies, is reciprocally in the duplicate proportion of thoſe diſtances. For inſtance, if two bodies, at a given diſtance, attract each other with a certain force, at half the diſtance, they will attract each other

other with four times that force; at one third of the diſtance, with nine times that force; and ſo on.

Two bodies at a diſtance will put one another into motion by the force of attraction; which is inexplicable by us, though made evident to us by experience, and ſo to be taken as a principle in natural philoſophy.

Suppoſing then the earth the ſole body in the univerſe, and at reſt; if God ſhould create the moon, at the ſame diſtance that it is now from the earth; the earth and the moon would preſently begin to move one towards another in a ſtraight line by this motion of attraction or gravitation.

If a body, that by the attraction of another would move in a ſtraight line towards it, receives a new motion any ways oblique to the firſt; it will no longer move in a ſtraight line, according to either of thoſe directions; but in a curve that will partake of both. And this curve will differ, according to the nature and quantity of the forces that concurred to produce it; as, for inſtance, in many caſes it will be ſuch a curve as ends where it began, or recurs into itſelf; that is, makes up a circle, or an ellipſis or oval very little differing from a circle.

CHAP. II.

Of the Univerſe.

TO any one, who looks about him in the world, there are obvious ſeveral diſtinct maſſes of matter, ſeparate from one another; ſome whereof have diſcernible motions. Theſe are the ſun, the fixt ſtars, the comets and the planets, amongſt which this earth, which we inhabit, is one. All theſe are viſible to our naked eyes.

Beſides theſe, teleſcopes have diſcovered ſeveral fixt ſtars, inviſible to the naked eye; and ſeveral other bodies moving about ſome of the planets; all which were inviſible and unknown, before the uſe of perſpective-glaſſes were found.

The vaſt diſtances between theſe great bodies, are called intermundane ſpaces; in which though there may be ſome fluid matter, yet it is ſo thin and ſubtile, and there is ſo little of that in reſpect of the great maſſes that move in thoſe ſpaces, that it is as much as nothing.

Theſe maſſes of matter are either luminous, or opake or dark.

Luminous bodies, are ſuch as give light of themſelves; and ſuch are the ſun and the fixt ſtars.

Dark or opake bodies, are ſuch as emit no light of themſelves, though they are capable of reflecting of it, when it is caſt upon them from other bodies; and ſuch are the planets.

There are ſome opake bodies, as for inſtance the comets, which, beſides the light that they may have from the ſun, ſeem to ſhine with a light that is nothing elſe but an accenſion, which they receive from the ſun, in their near approaches to it, in their reſpective revolutions.

The fixt ſtars are called fixt, becauſe they always keep the ſame diſtance one from another.

The ſun, at the ſame diſtance from us that the fixt ſtars are, would have the appearance of one of the fixt ſtars.

CHAP. III.

Of our Solar Syſtem.

OUR ſolar ſyſtem conſiſts of the ſun, and the planets and comets moving about it.

The planets are bodies, which appear to us like ſtars; not that they are luminous bodies, that is, have light in themſelves; but they ſhine by reflecting the light of the ſun.

They are called planets from a Greek word, which ſignifies wandering; becauſe they change their places, and do not always keep the ſame diſtance with one another, nor with the fixt ſtars, as the fixt ſtars do.

The planets are either primary, or ſecondary.

There

There are ſix primary planets, viz. Mercury, Venus, the Earth, Mars, Jupiter, and Saturn.

All theſe move round the ſun, which is, as it were, the centre of their motions.

The ſecondary planets move round about other planets. Beſides the moon, which moves about the earth; four moons move about Jupiter, and five about Saturn, which are called their ſatellites.

The middle diſtances of the primary planets from the ſun are as follows:

Mercury	Is diſtant from the ſun's centre, about	32,000,000	Statute miles, each 5280 Engliſh and 4943 French feet.
Venus		59,000,000	
The Earth		81,000,000	
Mars		123,000,000	
Jupiter		424,000,000	
Saturn		777,000,000	

The orbits of the planets, and their reſpective diſtances from the ſun, and from one another, together with the orbit of a comet, may be ſeen in the figure of the ſolar ſyſtem hereunto annexed.

The periodical times of each planet's revolution about the ſun are as follows:

		Y.	D.	H.	M.
Mercury	Revolves about the Sun, in the ſpace of	0	88	0	0
Venus		0	225	0	0
The Earth		0	365	5	49
Mars		1	322	0	0
Jupiter		11	319	0	0
Saturn		29	138	0	0

The planets move round about the ſun from weſt to eaſt in the zodiac; or, to ſpeak plainer, are always found amongſt ſome of the ſtars of thoſe conſtellations, which make the twelve ſigns of the zodiac.

The motion of the planets about the ſun is not perfectly circular, but rather elliptical.

The reaſon of their motions in curve lines, is the attraction of the ſun, or their gravitations towards the ſun,

(call it which you pleaſe); and an oblique or ſide-long impulſe or motion.

Theſe two motions or tendencies, the one always endeavouring to carry them in a ſtraight line from the circle they move in, and the other endeavouring to draw them in a ſtraight line to the ſun, makes that curve line they revolve in.

The motion of the comets about the ſun is in a very long ſlender oval: whereof one of the focuſes is the centre of the ſun, and the other very much beyond the ſphere of Saturn.

The moon moves about the earth, as the earth doth about the ſun. So that it hath the centre of its motion in the earth; as the earth hath the centre of its revolution in the ſun, about which it moves.

The moon makes its ſynodical motion about the earth, in 29 days, 12 hours, and about 44 minutes.

It is full moon, when, the earth being between the ſun and the moon, we ſee all the enlightened part of the moon; new moon, when, the moon being between us and the ſun, its enlightened part is turned from us; and half moon, when the moon being in the quadratures, as the aſtronomers call it, we ſee but half the enlightened part.

An eclipſe of the moon is, when the earth, being between the ſun and the moon, hinders the light of the ſun from falling upon, and being reflected by, the moon. If the light of the ſun is kept off from the whole body of the moon, it is a total eclipſe; if from a part only, it is a partial one.

An eclipſe of the ſun is, when the moon, being between the ſun and the earth, hinders the light of the ſun from coming to us. If the moon hides from us the whole body of the ſun, it is a total eclipſe; if not, a partial one.

Our ſolar ſyſtem is diſtant from the fixt ſtars 20,000,000,000 ſemi-diameters of the earth; or, as Mr. Huygens expreſſes the diſtance, in his Coſmotheoros *: the fixt ſtars are ſo remote from the earth, that,

* Chriſtiani Huygenii ΚΟΣΜΟΘΕΩΡΟΣ, ſive de terris cœleſtibus earumque ornatu, conjecturæ, &c. p. m. 137.

if a cannon-bullet ſhould come from one of the fixt ſtars with as ſwift a motion as it hath when it is ſhot out of the mouth of a cannon, it would be 700,000 years in coming to the earth.

This vaſt diſtance ſo much abates the attraction to thoſe remote bodies, that its operation upon thoſe of our ſyſtem is not at all ſenſible, nor would draw away or hinder the return of any of our ſolar comets; though ſome of them ſhould go ſo far from the ſun, as not to make the revolution about it in leſs than 1000 years.

It is more ſuitable to the wiſdom, power, and greatneſs of God, to think that the fixt ſtars are all of them ſuns, with ſyſtems of inhabitable planets moving about them, to whoſe inhabitants he diſplays the marks of his goodneſs as well as to us; rather than to imagine that thoſe very remote bodies, ſo little uſeful to us, were made only for our ſake.

CHAP. IV.

Of the Earth, conſidered as a Planet.

THE earth, by its revolution about the ſun in 365 days, 5 hours, 49 minutes, makes that ſpace of time we call a year.

The line, which the centre of the earth deſcribes in its annual revolution about the ſun, is called ecliptic.

The annual motion of the earth about the ſun, is in the order of the ſigns of the zodiac; that is, ſpeaking vulgarly, from weſt to eaſt.

Beſides this annual revolution of the earth about the ſun in the ecliptic, the earth turns round upon its own axis in 24 hours.

The turning of the earth upon its own axis every 24 hours, whilſt it moves round the ſun in a year, we may conceive by the running of a bowl on a bowling-green; in which not only the centre of the bowl hath a progreſſive motion on the green; but the bowl in its going forward, from one part of the green to another, turns round about its own axis.

The turning of the earth on its own axis, makes the difference of day and night; it being day in thoſe parts of the earth which are turned towards the ſun; and night in thoſe parts which are in the ſhade, or turned from the ſun.

The annual revolution of the earth in the ecliptic, is the cauſe of the different ſeaſons, and of the ſeveral lengths of days and nights, in every part of the world, in the courſe of the year.

The reaſon of it, is the earth's going round its own axis in the ecliptic, but at the ſame time keeping every where its axis equally inclined to the plane of the ecliptic, and parallel to itſelf. For the plane of the ecliptic inclining to the plane of the equator, 23 degrees and an half, makes that the earth, moving round in the ecliptic, hath ſometimes one of its poles, and ſometimes the other, nearer the ſun.

If the diameter of the ſun be to the diameter of the earth, as 48 to 1, as by ſome it is accounted; then the diſk of the ſun, ſpeaking "numero rotundo," is above 2000 times bigger than the diſk of the earth; and the globe of the ſun is above 100,000 times bigger than the globe of the earth.

The diſtance of the earth's orbit from the ſun, is above 200,000 ſemi-diameters of the earth.

If a cannon-bullet ſhould come from the ſun, with the ſame velocity it hath when it is ſhot out of the mouth of a cannon, it would be 25 years in coming to the earth.

CHAP. V.

Of the Air and Atmoſphere.

WE have already conſidered the earth as a planet, or one of the great maſſes of matter moving about the ſun; we ſhall now conſider it as it is made up of its ſeveral parts, abſtractedly from its diurnal and annual motions.

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The exterior part of this our habitable world is the air or atmoſphere; a light, thin fluid, or ſpringy body, that encompaſſes the ſolid earth on all ſides.

The height of the atmoſphere, above the ſurface of the ſolid earth, is not certainly known; but that it doth reach but to a very ſmall part of the diſtance betwixt the earth and the moon, may be concluded from the refraction of the rays coming from the ſun, moon, and other luminous bodies.

Though conſidering that the air we are in, being near 1000 times lighter than water; and that the higher it is, the leſs it is compreſſed by the ſuperior incumbent air, and ſo conſequently being a ſpringy body the thinner it is; and conſidering alſo that a pillar of air of any diameter is equal in weight to a pillar of quickſilver of the ſame diameter of between 29 and 30 inches height; we may infer that the top of the atmoſphere is not very near the ſurface of the ſolid earth.

It may be concluded, that the utmoſt extent of the atmoſphere reaches upwards, from the ſurface of the ſolid earth that we walk on, to a good diſtance above us; firſt, if we conſider that a column of air of any given diameter is equiponderant to a column of quickſilver of between 29 and 30 inches height. Now quickſilver being near 14 times heavier than water, if air was as heavy as water, the atmoſphere would be about 14 times higher than the column of quickſilver, i. e. about 35 feet.

Secondly, if we conſider that air is 1000 times lighter than water, then a pillar of air equal in weight to a pillar of quickſilver of 30 inches high will be 35000 feet; whereby we come to know that the air or atmoſphere is 35000 feet, i. e. near ſeven miles high.

Thirdly, if we conſider that the air is a ſpringy body, and that that, which is neareſt the earth, is compreſſed by the weight of all the atmoſphere that is above it, and reſts perpendicularly upon it; we ſhall find that the air here, near the ſurface of the earth, is much denſer and thicker than it is in the upper parts. For example, if upon a fleece of wool you lay another; the under one will be a little compreſſed by the weight of that which

lies upon it; and ſo both of them by a third, and ſo on; ſo that, if 10000 were piled one upon another, the under one would by the weight of all the reſt be very much compreſſed, and all the parts of it be brought abundantly cloſer together, than when there was no other upon it; and the next to that a little leſs compreſſed, the third a little leſs than the ſecond, and ſo on till it came to the uppermoſt, which would be in its full expanſion, and not compreſſed at all. Juſt ſo it is in the air; the higher you go in it, the leſs it is compreſſed, and conſequently the leſs denſe it is; and ſo the upper part being exceedingly thinner than the lower part, which we breathe in (which is that that is 1000 times lighter than water); the top of the atmoſphere is probably much higher than the diſtance above aſſigned.

That the air near the ſurface of the earth will mightily expand itſelf, when the preſſure of the incumbent atmoſphere is taken off, may be abundantly ſeen in the experiments made by Mr. Boyle in his pneumatic engine. In his "Phyſico-mechanical Experiments," concerning the air, he declares * it probable that the atmoſphere may be ſeveral hundred miles high; which is eaſy to be admitted, when we conſider what he proves in another part of the ſame treatiſe, viz. that the air here about the ſurface of the earth, when the preſſure is taken from it, will dilate itſelf about 152 times.

The atmoſphere is the ſcene of the meteors; and therein is collected the matter of rain, hail, ſnow, thunder, and lightning; and a great many other things obſervable in the air.

* New Experiments Phyſico-mechanical, touching the ſpring of the air, and its effects; (made for the moſt part in a new pneumatical engine) written .... by the honourable ROBERT BOYLE, Eſq; experiment xxxvi. p. 155. Oxford, 1662, in 4to.

CHAP.

CHAP. VI.

Of Meteors in general.

BESIDES the ſpringy particles of pure air, the atmoſphere is made up of ſeveral ſteams or minute particles of ſeveral ſorts, riſing from the earth and the waters, and floating in the air, which is a fluid body, and though much finer and thinner, may be conſidered in reſpect of its fluidity to be like water, and ſo capable, like other liquors, of having heterogeneous particles floating in it.

The moſt remarkable of them are, firſt, the particles of water raiſed into the atmoſphere, chiefly by the heat of the ſun, out of the ſea and other waters, and the ſurface of the earth; from whence it falls in dew, rain, hail, and ſnow.

Out of the vapours riſing from moiſture, the clouds are principally made.

Clouds do not conſiſt wholly of watery parts; for, beſides the aqueous vapours that are raiſed into the air, there are alſo ſulphureous and ſaline particles that are raiſed up, and in the clouds mixed with the aqueous particles, the effects whereof are ſometimes very ſenſible; as particularly in lightning and thunder, when the ſulphureous and nitrous particles firing break out with that violence of light and noiſe, which is obſervable in thunder, and very much reſembles gun-powder.

That there are nitrous particles raiſed into the air is evident from the nouriſhment which rain gives to vegetables more than any other water; and alſo by the collection of nitre or ſalt-petre in heaps of earth, out of which it has been extracted, if they be expoſed to the air, ſo as to be kept from rain; not to mention other efforts, wherein the nitrous ſpirit in the air ſhows itſelf.

Clouds are the greateſt and moſt conſiderable of all the meteors, as furniſhing matter and plenty to the earth. They conſiſt of very ſmall drops of water, and are elevated a good diſtance above the ſurface of the earth;

earth; for a cloud is nothing but a miſt flying high in the air, as a miſt is nothing but a cloud here below.

How vapours are raiſed into the air in inviſible ſteams by the heat of the ſun out of the ſea, and moiſt parts of the earth, is eaſily underſtood; and there is a viſible inſtance of it in ordinary diſtillations. But how theſe ſteams are collected into drops, which bring back the water again, is not ſo eaſy to determine.

To thoſe that will carefully obſerve, perhaps it will appear probable, that it is by that, which the chymiſts call precipitation; to which it anſwers in all its parts.

The air may be looked on as a clear and pellucid menſtruum, in which the inſenſible particles of diſſolved matter float up and down, without being diſcerned, or troubling the pellucidity of the air; when on a ſudden, as if it were by a precipitation, they gather into the very ſmall but viſible miſty drops that make clouds.

This may be obſerved ſometimes in a very clear ſky; when, there not appearing any cloud, or any thing opake, in the whole horizon, one may ſee on a ſudden clouds gather, and all the hemiſphere overcaſt; which cannot be from the riſing of the new aqueous vapours at that time, but from the precipitation of the moiſture, that in inviſible particles floated in the air, into very ſmall, but very viſible drops, which by a like cauſe being united into greater drops, they become too heavy to be ſuſtained in the air, and ſo fall down in rain.

Hail ſeems to be the drops of rain frozen in their falling.

Snow is the ſmall particles of water frozen before they unite into drops.

The regular figures, which branch out in flakes of ſnow, ſeem to ſhow that there are ſome particles of ſalt mixed with the water, which makes them unite in certain angles.

The rain-bow is reckoned one of the moſt remarkable meteors, though really it be no meteor at all; but the reflexion of the ſun-beams from the ſmalleſt drops of a cloud or miſt, which are placed in a certain angle made by the concurrence of two lines, one drawn from the ſun, and the other from the eye to theſe little drops in

the cloud, which reflect the ſun-beams; ſo that two people, looking upon a rainbow at the ſame time, do not ſee exactly the ſame rainbow.

CHAP. VII.

Of Springs, Rivers, and the Sea.

PART of the water that falls down from the clouds, runs away upon the ſurface of the earth into channels, which convey it to the ſea; and part of it is imbibed in the ſpungy ſhell of the earth, from whence ſinking lower by degrees, it falls down into ſubterranean channels, and ſo under ground paſſes into the ſea; or elſe, meeting with beds of rock or clay, it is hindered from ſinking lower, and ſo breaks out in ſprings, which are moſt commonly in the ſides, or at the bottom of hilly ground.

Springs make little rivulets; thoſe united make brooks; and thoſe coming together make rivers, which empty themſelves into the ſea.

The ſea is a great collection of waters in the deep valleys of the earth. If the earth were all plain, and had not thoſe deep hollows, the earth would be all covered with water; becauſe the water, being lighter than the earth, would be above the earth, as the air is above the water.

The moſt remarkable thing in the ſea is that motion of the water called tides. It is a riſing and falling of the water of the ſea. The cauſe of this is the attraction of the moon, whereby the part of the water in the great ocean, which is neareſt the moon, being moſt ſtrongly attracted, is raiſed higher than the reſt; and the part oppoſite to it on the contrary ſide, being leaſt attracted, is alſo higher than the reſt. And theſe two oppoſite riſes of the ſurface of the water in the great ocean, following the motion of the moon from eaſt to weſt, and ſtriking againſt the large coaſts of the continents that lie in its way; from thence rebounds back again, and ſo makes floods and ebbs in narrow ſeas, and rivers

remote

remote from the great ocean. Herein we alſo ſee the reaſon of the times of the tides, and why they ſo conſtantly follow the courſe of the moon.

CHAP. VIII.

Of ſeveral Sorts of Earth, Stones, Metals, Minerals, and other Foſſils.

THIS ſolid globe we live upon is called the earth, though it contains in it a great variety of bodies, ſeveral whereof are not properly earth; which word, taken in a more limited ſenſe, ſignifies ſuch parts of this globe as are capable, being expoſed to the air, to give rooting and nouriſhment to plants, ſo that they may ſtand and grow in it. With ſuch earth as this, the greateſt part of the ſurface of this globe is covered; and it is as it were the ſtore-houſe, from whence all the living creatures of our world have originally their proviſions; for from thence all the plants have their ſuſtenance, and ſome few animals, and from theſe all the other animals.

Of earth, taken in this ſenſe, there are ſeveral ſorts, v. g. common mould, or garden earth, clay of ſeveral kinds, ſandy ſoils.

Beſides theſe, there is medicinal earth; as that which is called terra lemnia, bolus armena, and divers others.

After the ſeveral earths, we may conſider the parts of the ſurface of this globe, which is barren; and ſuch, for the moſt, are ſand, gravel, chalk, and rocks, which produce nothing, where they have no earth mixt amongſt them. Barren ſands are of divers kinds, and conſiſt of ſeveral little irregular ſtones without any earth; and of ſuch there are great deſerts to be ſeen in ſeveral parts of the world.

Beſides theſe, which are moſt remarkable on the ſurface of the earth, there are found deeper, in this globe, many other bodies, which, becauſe we diſcover by digging into the bowels of the earth, are called by one common name, foſſils; under which are comprehended metals,

metals, minerals or half metals, ſtones of divers kinds, and ſundry bodies that have the texture between earth and ſtone.

To begin with thoſe foſſils which come neareſt the earth; under this head we may reckon the ſeveral ſorts of oker, chalk, that which they call black-lead, and other bodies of this kind, which are harder than earth, but have not the conſiſtency and hardneſs of perfect ſtone.

Next to theſe may be conſidered ſtones of all ſorts; whereof there is almoſt an infinite variety. Some of the moſt remarkable, either for beauty or uſe, are theſe: marble of all kinds, porphyry, granate, free-ſtone, &c. flints, agates, cornelians, pebbles, under which kind come the precious ſtones, which are but pebbles of an exceſſive hardneſs, and when they are cut and poliſhed, they have an extraordinary luſtre. The moſt noted and eſteemed are, diamonds, rubies, amethyſts, emeralds, topazes, opals.

Beſides theſe, we muſt not omit thoſe which, though of not ſo much beauty, yet are of greater uſe, viz. load-ſtones, whetſtones of all kinds, limeſtones, calamine, or lapis calaminaris; and abundance of others.

Beſides theſe, there are found in the earth ſeveral ſorts of ſalts, as eating or common ſalt, vitriol, ſal gemma, and others.

The minerals, or ſemi-metals, that are dug out of the bowels of the earth, are antimony, cinnabar, zink, &c. to which may be added brimſtone.

But the bodies of moſt uſe, that are ſought for out of the depths of the earth, are the metals; which are diſtinguiſhed from other bodies by their weight, fuſibility, and malleableneſs; of which there are theſe ſorts, gold, ſilver, copper, tin, lead, and, the moſt valuable of them all, iron; to which one may join that anomalous body quickſilver, or mercury.

He that deſires to be more particularly informed concerning the qualities and properties of theſe ſubterraneous bodies, may conſult natural hiſtorians and chymiſts.

What lies deeper towards the centre of the earth we know not, but a very little beneath the ſurface of this globe;

globe; and whatever we fetch from under ground is only what is lodged in the ſhell of the earth.

All ſtones, metals, and minerals, are real vegetables; that is, grow organically from proper ſeeds, as well as plants.

CHAP. IX.

Of Vegetables, or Plants.

NEXT to the earth itſelf, we may conſider thoſe that are maintained on its ſurface; which, though they are faſtened to it, yet are very diſtinct from it; and thoſe are the whole tribe of vegetables or plants. Theſe may be divided into three ſorts, herbs, ſhrubs, and trees.

Herbs are thoſe plants whoſe ſtalks are ſoft, and have nothing woody in them, as graſs, ſowthiſtle, and hemlock. Shrubs and trees have all wood in them; but with this difference, that ſhrubs grow not to the height of trees, and uſually ſpread into branches near the ſurface of the earth; whereas trees generally ſhoot up in one great ſtem or body, and then, at a good diſtance from the earth, ſpread into branches; thus gooſeberries, and currants, are ſhrubs; oaks, and cherries, are trees.

In plants, the moſt conſiderable parts are theſe, the root, the ſtalk, the leaves, the flower, and the ſeed. There are very few of them that have not all theſe parts, though ſome there are that have no ſtalk; others that have no leaves; and others that have no flowers. But without ſeed or root I think there are none.

In vegetables, there are two things chiefly to be conſidered, their nouriſhment and propagation.

Their nouriſhment is thus: the ſmall and tender fibres of the roots, being ſpread under ground, imbibe, from the moiſt earth, juice fit for their nouriſhment; this is conveyed by the ſtalk up into the branches, and leaves, through little, and, in ſome plants, imperceptible tubes, and from thence, by the dark, returns again to the root; ſo that there is in vegetables, as well as animals, a circulation of the vital liquor. By what impulſe

impulſe it is moved, is ſomewhat hard to diſcover. It ſeems to be from the difference of day and night, and other changes in the heat of the air; for the heat dilating, and the cold contracting thoſe little tubes, ſuppoſing there be valves in them, it is eaſy to be conceived how the circulation is performed in plants, where it is not required to be ſo rapid and quick as in animals.

Nature has provided for the propagation of the ſpecies of plants ſeveral ways. The firſt and general is by ſeed. Beſides this, ſome plants are raiſed from any part of the root ſet in the ground; others by new roots that are propagated from the old one, as in tulips; others by offſets, and in others, the branches ſet in the ground will take root and grow; and laſt of all, grafting and inoculation, in certain ſorts, are known ways of propagation. All theſe ways of increaſing plants make one good part of the ſkill of gardening; and from the books of gardeners may be beſt learnt.

CHAP. X.

Of Animals.

THERE is another ſort of creatures belonging to this our earth, rather as inhabitants than parts of it. They differ in this from plants, that they are not fixed to any one place, but have a freedom of motion up and down, and, beſides, have ſenſe to guide them in their motions.

Man and brute, divide all the animals of this our globe.

Brutes may be conſidered as either aerial, terreſtrial, aquatic, or amphibious. I call thoſe aerial, which have wings, wherewith they can ſupport themſelves in the air. Terreſtrial, are thoſe, whoſe only place of reſt is upon the earth. Aquatic, are thoſe, whoſe conſtant abode is upon the water. Thoſe are called amphibious, which live freely in the air upon the earth, and yet are obſerved to live long upon the water, as if they were natural inhabitants of that element; though it be worth the

the examination to know, whether any of thoſe creatures that live at their eaſe, and by choice, a good while or at any time upon the earth, can live a long time together perfectly under water.

Aerial animals may be ſubdivided into birds, and flies.

Fiſhes, which are the chief part of aquatic animals, may be divided into ſhell-fiſhes, ſcaly fiſhes, and thoſe that have neither apparent ſcales nor ſhells.

And the terreſtrial animals may be divided into quadrupeds or beaſts, reptiles, which have many feet, and ſerpents, which have no feet at all.

Inſects, which in their ſeveral changes belong to ſeveral of the before-mentioned diviſions, may be conſidered together as one great tribe of animals. They are called inſects, from a ſeparation in the middle of their bodies, whereby they are, as it were, cut into two parts, which are joined together by a ſmall ligature; as we ſee in waſps, common flies, and the like.

Beſides all theſe, there are ſome animals that are not perfectly of theſe kinds, but placed, as it were, in the middle betwixt two of them, by ſomething of both; as bats, which have ſomething of beaſts and birds in them.

Some reptiles of the earth, and ſome of aquatics, want one or more of the ſenſes, which are in perfecter animals; as worms, oyſters, cockles, &c.

Animals are nouriſhed by food, taken in at the mouth, digeſted in the ſtomach, and thence by fit veſſels diſtributed over the whole body, as is deſcribed in books of anatomy.

The greateſt part of animals have five ſenſes, viz. ſeeing, hearing, ſmelling, taſting, and feeling. Theſe, and the way of nouriſhment of animals, we ſhall more particularly conſider; becauſe they are common to man with beaſts.

The way of nouriſhment of animals, particularly of man, is by food taken in at the mouth, which being chewed there, is broken and mixed with the ſaliva, and thereby prepared for an eaſier and better digeſtion in the ſtomach.

When the ſtomach has performed its office upon the food, it protrudes it into the guts, by whoſe periſtaltic motion

motion it is gently conveyed along through the guts, and, as it paſſes, the chyle, which is the nutritive part, is ſeparated from the excrementitious, by the lacteal veins; and from thence conveyed into the blood, with which it circulates till itſelf be concocted into blood. The blood, being by the vena cava brought into the right ventricle of the heart, by the contraction of that muſcle, is driven through the arteria pulmonaris into the lungs; where the conſtantly inſpired air mixing with it, enlivens it; and from thence being conveyed by the vena pulmonaris into the left ventricle of the heart, the contraction of the heart forces it out, and, by the arteries, diſtributes it into all parts of the body; from whence it returns by the veins into the right ventricle of the heart, to take the ſame courſe again. This is called the circulation of the blood; by which life and heat are communicated to every part of the body.

In the circulation of the blood, a good part of it goes up into the head; and by the brains are ſeparated from it, or made out of it, the animal ſpirits; which, by the nerves, impart ſenſe and motion to all parts of the body.

The inſtruments of motion are the muſcles; the fibres whereof contracting themſelves, move the ſeveral parts of the body.

This contraction of the muſcles is, in ſome of them, by the direction of the mind, and in ſome of them without it; which is the difference between voluntary and involuntary motions, in the body.

CHAP. XI.

Of the Five Senſes.

OF SEEING.

THE organ of ſeeing is the eye; conſiſting of variety of parts wonderfully contrived, for the admitting and refracting the rays of light; ſo that thoſe that come from the ſame point of the object, and fall upon different parts of the pupil, are brought to meet

again at the bottom of the eye, whereby the whole object is painted on the retina that is ſpread there.

That which immediately affects the ſight, and produces in us that ſenſation which we call ſeeing, is light.

Light may be conſidered either, firſt, as it radiates from luminous bodies directly to our eyes; and thus we ſee luminous bodies themſelves, as the ſun, or a flame, &c. or ſecondly, as it is reflected from other bodies; and thus we ſee a man, or a picture, by the rays of light reflected from them to our eyes.

Bodies, in reſpect of light, may be divided into three ſorts; firſt, thoſe that emit rays of light, as the ſun and fixt ſtars; ſecondly, thoſe that tranſmit the rays of light, as the air; thirdly, thoſe that reflect the rays of light, as iron, earth, &c. The firſt are called luminous; the ſecond pellucid; and the third opake.

The rays of light themſelves are not ſeen; but by them the bodies, from which they originally come; as the ſun, or a fixt ſtar; or the bodies, from which they are reflected; as a horſe, or a tulip. When the moon ſhines, we do not ſee the rays which come from the ſun to the moon, but by them we ſee the moon, from whence they are reflected.

If the eye be placed in the medium, through which the rays paſs to it, the medium is not ſeen at all; for inſtance, we do not ſee the air through which the rays come to our eyes. But if a pellucid body, through which the light comes, be at a diſtance from our eye, we ſee that body, as well as the bodies, from whence the rays come that paſs through them to come to our eyes. For inſtance, we do not only ſee bodies through a pair of ſpectacles, but we ſee the glaſs itſelf. The reaſon whereof is, that pellucid bodies being bodies, the ſurfaces of which reflect ſome rays of light from their ſolid parts; theſe ſurfaces, placed at a convenient diſtance from the eye, may be ſeen by thoſe reflected rays; as, at the ſame time, other bodies beyond thoſe pellucid ones may be ſeen by the tranſmitted rays.

Opake bodies are of two ſorts, ſpecular, or not ſpecular. Specular bodies, or mirrours, are ſuch opake bodies, whoſe ſurfaces are poliſhed; whereby they, reflecting

ing the rays in the ſame order as they come from other bodies, ſhow us their images.

The rays that are reflected from opake bodies, always bring with them to the eye the idea of colour; and this colour is nothing elſe, in the bodies, but a diſpoſition to reflect to the eye more copiouſly one ſort of rays than another. For particular rays are originally endowed with particular colours; ſome are red, others blue, others yellow, and others green, &c.

Every ray of light, as it comes from the ſun, ſeems a bundle of all theſe ſeveral ſorts of rays; and as ſome of them are more refrangible than others; that is, are more turned out of their courſe, in paſſing from one medium to another; it follows, that after ſuch refraction they will be ſeparated, and their diſtinct colour obſerved. Of theſe, the moſt refrangible are violet, and the leaſt red; and the intermediate ones, in order, are indigo, blue, green, yellow, and orange. This ſeparation is very entertaining, and will be obſerved with pleaſure in holding a priſm in the beams of the ſun.

As all theſe rays differ in refrangibility, ſo they do in reflexibility; that is, in the property of being more eaſily reflected from certain bodies, than from others; and hence ariſe, as hath been ſaid, all the colours of bodies; which are, in a manner, infinite, as an infinite number of compoſitions and proportions, of the original colours, may be imagined.

The whiteneſs of the ſun's light is compounded of all the original colours, mixed in a due proportion.

Whiteneſs, in bodies, is but a diſpoſition to reflect all colours of light, nearly in the proportion they are mixed in the original rays; as, on the contrary, blackneſs is only a diſpoſition to abſorb or ſtifle, without reflection, moſt of the rays of every ſort that fall on the bodies.

Light is ſucceſſively propagated with an almoſt inconceivable ſwiftneſs; for it comes from the ſun, to this our earth, in about ſeven or eight minutes of time, which diſtance is about 80,000,000 Engliſh miles.

Beſides colour, we are ſuppoſed to ſee figure; but, in truth, that which we perceive when we ſee figure, as perceiveable by ſight, is nothing but the termination of colour.

OF HEARING.

NEXT to ſeeing, hearing is the moſt extenſive of our ſenſes. The ear is the organ of hearing, whoſe curious ſtructure is to be learnt from anatomy.

That which is conveyed into the brain by the ear is called ſound; though, in truth, till it come to reach and affect the perceptive part, it be nothing but motion.

The motion, which produces in us the perception of ſound, is a vibration of the air, cauſed by an exceeding ſhort, but quick, tremulous motion of the body, from which it is propagated; and therefore we conſider and denominate them as bodies ſounding.

That ſound is the effect of ſuch a ſhort, briſk, vibrating motion of bodies, from which it is propagated, may be known from what is obſerved and felt in the ſtrings of inſtruments, and the trembling of bells, as long as we perceive any ſound come from them; for as ſoon as that vibration is ſtopt, or ceaſes in them, the perception ceaſes alſo.

The propagation of ſound is very quick, but not approaching that of light. Sounds move about 1140 Engliſh feet in a ſecond of time; and in ſeven or eight minutes of time, they move about one hundred Engliſh miles.

OF SMELLING.

SMELLING is another ſenſe, that ſeems to be wrought on by bodies at a diſtance; though that, which immediately affects the organ, and produces in us the ſenſation of any ſmell, are affluvia, or inviſible particles, that, coming from bodies at a diſtance, immediately affect the olfactory nerves.

Smelling bodies ſeem perpetually to ſend forth effluvia, or ſteams, without ſenſibly waſting at all. Thus a grain of muſk will ſend forth odoriferous particles for ſcores of years together, without its being ſpent; whereby one would conclude that theſe particles are very ſmall; and

and yet it is plain, that they are much groſſer than the rays of light, which have a free paſſage through glaſs; and groſſer alſo than the magnetic affluvia, which paſs freely through all bodies, when thoſe that produce ſmell will not paſs through the thin membranes of a bladder, and many of them ſcarce ordinary white paper.

There is a great variety of ſmells, though we have but a few names for them; ſweet, ſtinking, ſour, rank, and muſty, are almoſt all the denominations we have for odours; though the ſmell of a violet, and of muſk, both called ſweet, are as diſtinct as any two ſmells whatſoever.

OF TASTE.

TASTE is the next ſenſe to be conſidered.

The organ of taſte is the tongue and palate.

Bodies that emit light, ſounds, and ſmells, are ſeen, heard, and ſmelt at a diſtance; but bodies are not taſted, but by immediate application to the organ; for till our meat touch our tongues, or palates, we taſte it not, how near ſoever it be.

It may be obſerved of taſtes, that though there be a great variety of them, yet, as in ſmells, they have only ſome few general names; as ſweet, bitter, ſour, harſh, rank, and ſome few others.

OF TOUCH.

THE fifth and laſt of our ſenſes is touch; a ſenſe ſpread over the whole body, though it be moſt eminently placed in the ends of the fingers.

By this ſenſe the tangible qualities of bodies are diſcerned; as hard, ſoft, ſmooth, rough, dry, wet, clammy, and the like.

But the moſt conſiderable of the qualities, that are perceived by this ſenſe, are heat and cold.

The due temperament of thoſe two oppoſite qualities, is the great inſtrument of nature, that ſhe makes uſe of in moſt, if not all, her productions.

Heat is a very briſk agitation of the inſenſible parts of the object, which produces in us that ſenſation, from whence we denominate the object hot; ſo what in our ſenſation is heat, in the object is nothing but motion. This appears by the way whereby heat is produced; for we ſee that the rubbing of a braſs nail upon a board will make it very hot; and the axle-trees of carts and coaches are often hot, and ſometimes to a degree, that it ſets them on fire, by the rubbing of the nave of the wheel upon it.

On the other ſide, the utmoſt degree of cold is the ceſſation of that motion of the inſenſible particles, which to our touch is heat.

Bodies are denominated hot and cold in proportion to the preſent temperament of that part of our body to which they are applied; ſo that feels hot to one, which ſeems cold to another; nay, the ſame body, felt by the two hands of the ſame man, may at the ſame time appear hot to the one, and cold to the other; becauſe the motion of the inſenſible particles of it may be more briſk than that of the particles of the other.

Beſides the objects before-mentioned, which are peculiar to each of our ſenſes, as light, and colour of the ſight; ſound of hearing; odours of ſmelling; ſavours of taſting; and tangible qualities of the touch; there are two others that are common to all the ſenſes; and thoſe are pleaſure and pain, which they may receive by and with their peculiar objects. Thus, too much light offends the eye; ſome ſounds delight, and others grate the ear; heat in a certain degree is very pleaſant, which may be augmented to the greateſt torment; and ſo the reſt.

Theſe five ſenſes are common to beaſts with men; nay, in ſome of them, ſome brutes exceed mankind. But men are endowed with other faculties, which far excel any thing that is to be found in the other animals in this our globe.

Memory alſo brutes may be ſuppoſed to have, as well as men.

CHAP.

CHAP. XII.

Of the Underſtanding of Man.

THE underſtanding of man does ſo ſurpaſs that of brutes, that ſome are of opinion brutes are mere machines, without any manner of perception at all. But letting this opinion alone, as ill-grounded, we will proceed to the conſideration of human underſtanding, and the diſtinct operations thereof.

The loweſt degree of it conſiſts in perception, which we have before in part taken notice of, in our diſcourſe of the ſenſes. Concerning which it may be convenient farther to obſerve, that, to conceive a right notion of perception, we muſt conſider the diſtinct objects of it, which are ſimple ideas; v. g. ſuch as are thoſe ſignified by theſe words, ſcarlet, blue, ſweet, bitter, heat, cold, &c. from the other objects of our ſenſes; to which we may add the internal operations of our minds, as the objects of our own reflection, ſuch as are thinking, willing, &c.

Out of theſe ſimple ideas are made, by putting them together, ſeveral compounded or complex ideas; as thoſe ſignified by the words pebble, marygold, horſe.

The next thing the underſtanding doth in its progreſs to knowledge, is to abſtract its ideas, by which abſtraction they are made general.

A general idea is an idea in the mind, conſidered there as ſeparated from time and place; and ſo capable to repreſent any particular being that is conformable to it. Knowledge, which is the higheſt degree of the ſpeculative faculties, conſiſts in the perception of the truth of affirmative, or negative, propoſitions.

This perception is either immediate, or mediate. Immediate perception of the agreement, or diſagreement, of two ideas, is when, by comparing them together in our minds, we ſee, or, as it were, behold, their agreement, or diſagreement. This therefore is called intuitive knowledge. Thus we ſee that red is not green;

that the whole is bigger than a part; and that two and two are equal to four.

The truth of theſe, and the like propoſitions, we know by a bare ſimple intuition of the ideas themſelves, without any more ado; and ſuch propoſitions are called ſelf-evident.

The mediate perception of the agreement, or diſagreement, of two ideas, is when, by the intervention of one or more other ideas, their agreement, or diſagreement, is ſhown. This is called demonſtration, or rational knowledge. For inſtance: The inequality of the breadth of two windows, or two rivers, or any two bodies that cannot be put together, may be known by the intervention of the ſame meaſure, applied to them both: and ſo it is in our general ideas, whoſe agreement or diſagreement may be often ſhown by the intervention of ſome other ideas, ſo as to produce demonſtrative knowledge; where the ideas in queſtion cannot be brought together, and immediately compared, ſo as to produce intuitive knowledge.

The underſtanding doth not know only certain truth; but alſo judges of probability, which conſiſts in the likely agreement, or diſagreement, of ideas.

The aſſenting to any propoſition as probable is called opinion, or belief.

We have hitherto conſidered the great and viſible parts of the univerſe, and thoſe great maſſes of matter, the ſtars, planets, and particularly this our earth, together with the inanimate parts, and animate inhabitants of it; it may be now fit to conſider what theſe ſenſible bodies are made of, and that is of unconceivably ſmall bodies, or atoms, out of whoſe various combinations bigger moleculæ are made: and ſo, by a greater and greater compoſition, bigger bodies; and out of theſe the whole material world is conſtituted.

By the figure, bulk, texture, and motion, of theſe ſmall and inſenſible corpuſcles, all the phænomena of bodies may be explained.

A NEW

METHOD

OF A

COMMON-PLACE-BOOK.

TRANSLATED OUT OF THE FRENCH FROM THE SECOND VOLUME OF THE BIBLIOTHEQUE UNIVERSELLE.

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Z	a
	e
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	o
Q	u

EPISTOLA.] A letter from Mr. Locke to Mr. 2. Toignard, containing a new and eaſy method of a common-place-book, to which an index of two pages is ſufficient.

AT length, ſir, in obedience to you, I publiſh my "method of a common-place-book." I am aſhamed that I deferred ſo long complying with your requeſt; but I eſteemed it ſo mean a thing, as not to deſerve publiſhing, in an age ſo full of uſeful inventions, as ours is. You may remember, that I freely communicated it to you, and ſeveral others, to whom I imagined it would not be unacceptable: ſo that it was not to reſerve the ſole uſe of it to myſelf, that I declined publiſhing it. But the regard I had to the public diſcouraged me from preſenting it with ſuch a trifle. Yet my obligations to you, and the friendſhip between us, compel me now to follow your advice. Your laſt letter has perfectly determined me to it, and I am convinced that I ought not to delay publiſhing it, when you tell me, that an experience of ſeveral years has ſhowed its uſefulneſs, and ſeveral of your friends, to whom you have communicated it. There is no need I ſhould tell you, how uſeful it has been to me, after five and twenty years experience, as I told you, eight years ſince, when I had the honour to wait on you at Paris, and when I might have been inſtructed, by your learned and agreeable diſcourſe. What I aim at now, by this letter, is to teſtify publicly the eſteem and reſpect I have for you, and to convince you how much I am, ſir, your, &c.

Before I enter on my ſubject, it is fit to acquaint the reader, that this tract is diſpoſed in the ſame manner that the common-place-book ought

3. ought to be diſpoſed. It will be underſtood by reading what follows, what is the meaning of the Latin titles on the top of the backſide of each leaf, and at the bottom [a little below the top] of this page.

EBIONITÆ.] In eorum evangelio, quod ſecundum Hebræos dicebatur, hiſtoria quæ habetur Matth. xix. 16. et alia quædam, erat interpolata in hunc modum: "Dixit ad eum alter divitum, magiſter, "quid bonum faciens vivam? Dixit ei Domi- "nus, legem & prophetas, fac. Reſpondit ad "eum, feci. Dixit ei: vade, vende omnia quæ "poſſides, & divide pauperibus, & veni, ſe- "quere me. Cœpit autem dives ſcalpere caput "ſuum, & non placuit ei. Et dixit ad eum "Dominus: quomodo dicis, legem feci & pro- "phetas? cùm ſcriptum ſit in lege, diliges "proximum tuum ſicut teipſum: & ecce multi "fratres tui filii Abrahæ amicti ſunt ſtercore, "morientes præ fame, & domus tua plena eſt "bonis multis, & non egreditur omnino aliquid "ex eâ ad eos. Et converſus, dixit Simoni, diſ- "cipulo ſuo, ſedenti apud ſe: Simon, fili Johan- "næ, facilius eſt camelum intrare per foramen "acûs, quam divitem in regnum cœlorum." Nimirum hæc ideo immutavit Ebion, quia Chriſtum nec Dei filium, nec νομοθέτην, ſed nudum interpretem legis per Moſem datæ agnoſcebat.

In the Goſpel of the Ebionites, which they called the Goſpel according to the Hebrews, the ſtory, that is in the xixth of St. Matth. and in the 16th and following verſes, was changed after this manner: "One of the rich men ſaid to him: "Maſter, what ſhall I do that I may have life? "Jeſus ſaid to him: Obey the law and the pro- "phets. He anſwered, I have done ſo. Jeſus "ſaid unto him, Go, ſell what thou haſt, divide "it among the poor, and then come and follow "me. Upon which the rich man began to "ſcratch his head, and to diſlike the advice of "Jeſus: and the Lord ſaid unto him, How can "you ſay you have done as the law and the pro-

ADVERSARIORUM METHODUS.] I take a paper book
4. of what ſize I pleaſe. I divide the two firſt pages that face one another by parallel lines into five and twenty equal parts, every fifth line black, the other red. I then cut them perpendicularly by other lines that I draw from the top to the bottom of the page, as you may ſee in the table prefixed. I put about the middle of each five ſpaces one of the twenty letters I deſign to make uſe of, and, a little forward in each ſpace, the five vowels, one below another, in their natural order. This is the index to the whole volume, how big ſoever it may be.

The index being made after this manner, I leave a margin in all the other pages of the book, of about the largeneſs of an inch, in a volume in folio, or a little larger; and, in a leſs volume, ſmaller in proportion.

If I would put any thing in my Common-Place-Book, I find out a head to which I may refer it. Each head ought to be ſome important and eſſential word to the matter in hand, and in that word regard is to be had to the firſt letter, and the vowel that follows it; for upon theſe two letters depends all the uſe of the index.

I omit three letters of the alphabet as of no uſe to me, viz. K. Y. W. which are ſupplied by C. I. U. that are equivalent to them. I put the letter Q. that is always followed with an u. in the fifth ſpace of Z. By throwing Q. laſt in my index, I preſerve the regularity of my index, and diminiſh not in the leaſt its extent; for it ſeldom happens that there is any head begins with Z. u. I have found none in the five and twenty years I have uſed this method. If nevertheleſs it be neceſſary, nothing hinders but that one may make a reference after Q. u. provided it be done with any kind of diſtinction; but for more exactneſs a place may be aſſigned for

5. for Q. u. below the index, as I have formerly done. When I meet with any thing, that I think fit to put into my common-place-book, I firſt find a proper head. Suppoſe, for example, that the head be EPISTOLA, I look unto the index for the firſt letter and the following vowel, which in this inſtance are E. i. if in the ſpace marked E. i. there is any number that directs me to the page deſigned for words that begin with an E. and whoſe firſt vowel, after the initial letter, is I; I muſt then write under the word Epiſtola, in that page, what I have to remark. I write the head in large letters, and begin a little way out into the margin, and I continue on the line, in writing what I have to ſay. I obſerve conſtantly this rule, that only the head appears in the margin, and that it be continued on, without ever doubling the line in the margin, by which means the heads will be obvious at firſt ſight.

If I find no number in the index, in the ſpace E. i. I look into my book for the firſt backſide of a leaf that is not written in, which, in a book where there is yet nothing but the index, muſt be p. 2. I write then, in my index after E. i. the number 2. and the head Epiſtola at the top of the margin of the ſecond page, and all that I put under that head, in the ſame page, as you ſee I have done in the ſecond page of this method. From that time the claſs E. i. is wholly in poſſeſſion of the ſecond and third pages.

They are to be employed only on words that begin with an E, and whoſe neareſt vowel is an I, as Ebionitæ (ſee the third page) Epiſcopus, Echinus, Edictum, Efficacia, &c. The reaſon, why I begin always at the top of the backſide of a leaf, and aſſign to one claſs two pages, that face one another, rather than an entire leaf, is, becauſe the heads of the claſs appear

ADVERSARIORUM METHODUS.] all at once, without the
V. trouble of turning over a leaf.
6.

Every time, that I would write a new head, I look firſt in my index for the characteriſtic letters of the words, and I ſee, by the number that follows, what the page is that is aſſigned to the claſs of that head. If there is no number, I muſt look for the firſt backſide of a page that is blank. I then ſet down the number in the index, and deſign that page, with that of the right ſide of the following leaf, to this new claſs. Let it be, for example, the word Adverſaria; if I ſee no number in the ſpace A. e. I ſeek for the firſt backſide of a leaf, which being at p. 4. I ſet down in the ſpace A. e. the number 4. and in the fourth page the head ADVERSARIA, with all that I write under it, as I have already informed you. From this time the fourth page with the fifth that follows is reſerved for the claſs A. e. that is to ſay, for the heads that begin with an A, and whoſe next vowel is an E; as for inſtance, Aer, Aera, Ageſilaus, Acheron, &c.

When the two pages deſigned for one claſs are full, I look forwards for the next backſide of a leaf, that is blank. If it be that which immediately follows, I write at the bottom of the margin, in the page that I have filled, the letter V, that is to ſay, Verte, turn over; as likewiſe the ſame at the top of the next page. If the pages, that immediately follow, are already filled by other claſſes, I write, at the bottom of the page laſt filled, V, and the number of the next empty backſide of a page. At the beginning of that page I write down the head, under which I go on, with what I had to put in my common-place-book, as if it had been in the ſame page. At the top of this new backſide of a leaf, I ſet down the number of the page I filled laſt. By theſe numbers which refer to one another, the firſt whereof is at the bottom of one page, and the

7. the ſecond is at the beginning of another, one joins matter that is ſeparated, as if there was nothing between them. For, by this reciprocal reference of numbers, one may turn, as one leaf, all thoſe that are between the two, even as if they were paſted together. You have an example of this in the third and tenth pages.

Every time I put a number at the bottom of page, I put it alſo into the index; but whe put only an V, I make no addition in the inde the reaſon whereof is plain.

If the head is a monoſyllable and begins with a vowel, that vowel is at the ſame time both the firſt letter of the word, and the characteriſtic vowel. Therefore I write the word Ars in A a and Os in O o.

You may ſee by what I have ſaid, that one is to begin to write each claſs of words, on the backſide of a page. It may happen, upon that account, that the backſide of all the pages may be full, and yet there may remain ſeveral pages, on the right hand, which are empty. Now if you have a mind to fill your book, you may aſſign theſe right ſides, which are wholly blank, to new claſſes.

If any one imagines that theſe hundred claſſes are not ſufficient to comprehend all ſorts of ſubjects without confuſion, he may follow the ſame method, and yet augment the number to five hundred, in adding a vowel. But having experienced both the one and the other method, I prefer the firſt; and uſage will convince thoſe, who ſhall try it, how well it will ſerve the purpoſe aimed at; eſpecially if one has a book for each ſcience, upon which one makes collections, or at leaſt two for the two heads, to which one may refer all our knowledge, viz. moral philoſophy, and natural.

You may add a third, which may be called [illegible]ns, which relates to the uſe of

ADVERSARIORUM METHODUS.] of words, and is of
V. much more extent than mere criticiſm.
8.

As to the language, in which one ought to expreſs the heads, I eſteem the Latin tongue moſt commodious, provided the nominative caſe be always kept to, for fear leſt in words of two ſyllables, or in monoſyllables that begin with the vowel, the change, which happens in oblique caſes, ſhould occaſion confuſion. But it is not of much conſequence what language is made uſe of, provided there be no mixture in the heads, of different languages.

To take notice of a place in an author, from whom I quote ſomething, I make uſe of this method: before I write any thing, I put the name of the author in my common-place-book, and under that name the title of the treatiſe, the ſize of the volume, the time and place of its edition, and (what ought never to be omitted) the number of pages that the whole book contains. For example, I put into the claſs M. a. "Mar-" ſhami Canon Chronicus Ægyptiacus, Græcus, " & diſquiſitiones fol." London 1672. p. 626. This number of pages ſerves me for the future to mark the particular treatiſe of this author, and the edition I make uſe of. I have no need to mark the place, otherwiſe than in ſetting down the number of the page from whence I have drawn what I have wrote, juſt above the number of pages contained in the whole volume. You will ſee an example in Acheruſia, where the number 259 is juſt above the number 626, that is to ſay, the number of the page, where I take my matter, is juſt above the number of pages of the whole volume. By this means I not only ſave myſelf the trouble of writing Canon Chronicus Ægyptiacus, &c. but am able by the rule of three to find out the ſame paſſage in any other edition, by looking for the number of its pages;

9. ſince the edition I have uſed, which contains 626, gives me 259. You will not indeed always light on the very page you want, becauſe of the breaches, that are made in different editions of books, and that are not always equal in proportion; but you are never very far from the place you want, and it is better to be able to find a paſſage, in turning over a few pages, than to be obliged to turn over a whole book to find it, as it happens, when the book has no index, or when the index is not exact.

ACHERON.] "Pratum, ficta, mortuorum habitatio, eſt "locus prope Memphin, juxta paludem, quam "vocant Acheruſiam, &c." This is a paſſage out of D. Siculus, the ſenſe whereof is this: the fields, where they feign that the dead inhabit, are only a place near Memphis, near a marſh called Acheruſia, about which is a moſt delightful country, where one may behold lakes and foreſts of lotus and calamus. It is with reaſon, that Orpheus ſaid, the dead inhabit theſe places, becauſe there the Egyptians celebrate the greateſt part, and the moſt auguſt, of their funeral ſolemnities. They carry the dead over the Nile, and through the marſh of Acheruſia, and there put them into ſubterraneous vaults. There are a great many other fables, among the Greeks, touching the ſtate of the dead, which very well agree with what is at this day practiſed in Egypt. For they call the boat, in which the dead are tranſported, Baris; and a certain piece of money is given to the ferry-man for a paſſage, who, in their language, is called Charon. Near this place is a temple of Hecate in the ſhades, &c. and the gates of Cocytus and Lethe, ſhut up with bars of braſs. There are other gates, which are called the gates of truth, with the ſtatue of juſtice before them, which has no head. Marſham. $\frac{219}{233}$.

EBIONITÆ.] "phets direct you? ſince it is written in the
V. 3. "law, Thou ſhalt love thy neighbour as thyſelf;
10. "and there are many of thy brethren, children
"of Abraham, who are almoſt naked, and who
"are ready to die with hunger, while thy houſe
"is full of good things, and yet thou giveſt
"them no help nor aſſiſtance. And turning
"himſelf towards Simon, his diſciple, who ſat
"near him: Simon, ſon of Johanna, ſaid he,
"it is eaſier for a camel to go through the eye
"of a needle, than for a rich man to enter into
"the kingdom of heaven." Ebion changed this paſſage, becauſe he did not believe Jeſus Chriſt to be the ſon of God, nor a law-giver, but a mere interpreter of the law of Moſes. Grotius $\frac{2\,2\,2}{1\,6\,7\,0}$.

II.

HÆRETICI.] " Noſtrum igitur fuit, eligere & optare
12. " meliora, ut ad veſtram correctionem auditum
" haberemus, non in contentione & æmulatione
" & perſecutionibus, ſed manſuetè conſolando,
" benevolè hortando, lenitur diſputando, ſicut
" ſcriptum eſt, ſervum autem Domini non opor-
" tet litigare, ſed mitem eſſe ad omnes, docibi-
" lem, patientem, in modeſtia corripientem di-
" verſa ſentientes. Noſtrum ergo fuit velle has
" partes expetere: Dei eſt volentibus & peten-
" tibus donare quod bonum eſt. Illi in vos
" ſæviant qui neſciunt cum quo labore verum
" inveniatur, & quam difficile caveantur errores.
" Illi in vos ſæviant, qui neſciunt quam rarum
" & arduum ſit carnalia phantaſmata piæ mentis
" ſerenitate ſuperare. Illi in vos ſæviant, qui
" neſciunt cum quantâ difficultate ſanetur oculus
" interioris hominis, ut poſſit intueri ſolem
" ſuum;——Illi in vos ſæviant, qui neſciunt
" quibus ſuſpiriis & gemitibus fiat, ut ex quan-
" tulacunque parte poſſit intelligi Deus. Poſ-
" tremo, illi in vos ſæviant, qui nullo tali errore
" decepti ſunt, quali vos deceptos vident. In
" catholicâ enim eccleſiâ, ut omittam ſinceriſſi-
" mam ſapientiam, ad cujus cognitionem pauci
" ſpirituales in hâc vitâ perveniunt, ut eam ex
" minimâ quidem parte, quia homines ſunt, ſed
" tamen ſine dubitatione, cognoſcant: cæterum
" quippe turbam non intelligendi vivacitas, ſed
" credendi ſimplicitas tutiſſimam facit." Auguſtinus, Tom. vi. col. 116. fol. Baſiliæ 1542, contra Epiſt. Manichæi, quam vocant fundamenti.

" We were of opinion, that other methods
" were to be made choice of, and that, to re-
" cover you from your errours, we ought not to
" perſecute you with injuries and invectives, or
" any ill treatment, but endeavour to procure
" your attention, by ſoft words and exhorta-
" tions, which would ſhow the tenderneſs we
" have for you: according to that paſſage of
" holy

13. " holy writ, " the ſervant of the Lord ought
" not to love ſtrife and quarrels, but to be gen-
" tle, affable, and patient towards all mankind,
" and to reprove with modeſty thoſe who differ
" from him in opinion."—" Let them only treat
" you with rigour, who know not how difficult
" it is to find out the truth, and avoid errour.
" Let thoſe treat you with rigour, who are igno-
" rant how rare and painful a work it is calmly
" to diſſipate the carnal phantoms, that diſturb
" even a pious mind. Let thoſe treat you with
" rigour, who are ignorant of the extreme diffi-
" culty that there is to purify the eye of the
" inward man, to render him capable of ſeeing
" the truth, which is the ſun, or light of the
" ſoul. Let thoſe treat you with rigour, who
" have never felt the ſighs and groans that a ſoul
" muſt have before it can obtain any knowledge
" of the divine Being. To conclude, let thoſe
" treat you with rigour who never have been
" ſeduced into errours, near a-kin to thoſe you
" are engaged in. I paſs over in ſilence that
" pure wiſdom, which but a few ſpiritual men
" attain to in this life; ſo that though they know
" but in part, becauſe they are men; yet never-
" theleſs they know what they do know with
" certainty: for, in the catholic church, it is
" not penetration of mind, nor profound know-
" ledge, but ſimplicity of faith, which puts men
" in a ſtate of ſafety.

" Barbari quippe homines Romanæ, imo po-
" tius humanæ eruditionis expertes, qui nihil
" omnino ſciunt, niſi quod à doctoribus ſuis
" audiunt: quod audiunt hoc ſequuntur, ac ſic
" neceſſe eſt eos qui totius literaturæ ac ſcientiæ
" ignari, ſacramentum divinæ legis doctrina,
" magis quam lectione, cognoſcunt, doctrinam
" potius retinere, quam legem. Itaque eis tra-
" ditio magiſtrorum ſuorum & doctrina invete-
" rata, quaſi lex eſt, qui hoc ſciunt, quod do-

V. 16. centur.

CONFESSIO FIDEI.] " Periculoſum nobis admodum at-
14. " que etiam miſerabile eſt, tot nunc fides ex-
" iſtere, quot voluntates: & tot nobis doctrinas
" eſſe, quot mores: & tot cauſas blaſphemia-
" rum pullulare, quot vitia ſunt: dum aut ita
" fides ſcribuntur, ut volumus, aut, ita ut volu-
" mus, intelliguntur. Et cum ſecundum unum
" Deum & unum Dominum, & unum baptiſma,
" etiam fides una ſit, excidimus ab eâ fide, quæ
" ſola eſt: & dum plures fiant, id eſſe cœpe-
" runt, ne ulla ſit; conſcii enim nobis invicem
" ſumus, poſt Nicæni conventûs ſynodum, nihil
" aliud quam fidem ſcribi. Dum in verbis
" pugna eſt, dum de novitatibus quæſtio eſt,
" dum de ambiguis occaſio eſt, dum de autori-
" bus querela eſt, dum de ſtudiis certamen eſt,
" dum in conſenſu difficultas eſt, dum alter alteri
" anathema eſſe cæpit, prope jam nemo eſt
" Chriſti, &c. Jam vero proximi anni fides,
" quid jam de immutatione in ſe habet? Pri-
" mum, quæ homouſion decernit taceri: ſequens
" rurſum, quæ homouſion decernit & prædicat.
" Tertium deinceps, quæ ouſiam ſimpliciter à
" patribus præſumptam, per indulgentiam ex-
" cuſat. Poſtremum quartum, quæ non excu-
" ſat, ſed condemnat, &c. De ſimilitudine au-
" tem filii Dei ad Deum patrem, quod miſera-
" bilis noſtri temporis eſt fides, ne non ex toto,
" ſed tantum ex portione ſit ſimilis? Egregii
" ſcilicet arbitri cœleſtium ſacramentorum con-
" quiſitores, inviſibilium myſteriorum profeſ-
" ſionibus de fide Dei calumniamur, annuas
" atque menſtruas de Deo fides decernimus,
" decretis pœnitemus, pœnitentes defendimus,
" defenſos anathematizamus, aut in noſtri aliena
" aut in alienis noſtra damnamus, & mordentes
" invicem, jam abſumpti ſumus invicem." Hi-
larius, p. 211. in lib. ad Conſtantium Auguſtum.
Baſil. 1550, fol.

" It is a thing equally deplorable and dange-
" rous, that there are at preſent as many creeds

" as

15. " as there are opinions among men, as many
" doctrines as inclinations; and as many ſources
" of blaſphemy, as there are faults among
" us; becauſe we make creeds arbitrarily, and
" explain them as arbitrarily. And as there is
" but one faith; ſo there is but one only God,
" one Lord, and one baptiſm. We renounce
" this one faith, when we make ſo many diffe-
" rent creeds; and that diverſity is the reaſon
" why we have no true faith among us. We
" cannot be ignorant that, ſince the council of
" Nice, we have done nothing but made creeds.
" And while we fight againſt words, litigate
" about new queſtions, diſpute about equivocal
" terms, complain of authors, that every one
" may make his own party triumph; while we
" cannot agree, while we anathematiſe one an-
" other, there is hardly one that adheres to
" Jeſus Chriſt. What change was there not in
" the creed laſt year! The firſt council ordained
" a ſilence upon the homouſion; the ſecond
" eſtabliſhed it, and would have us ſpeak; the
" third excuſes the fathers of the council, and
" pretends they took the word ouſia ſimply;
" the fourth condemns them, inſtead of excuſing
" them. With reſpect to the likeneſs of the
" Son of God to the Father, which is the faith
" of our deplorable times, they diſpute whether
" he is like in whole, or in part. Theſe are rare
" folks to unravel the ſecrets of heaven. Ne-
" vertheleſs it is for theſe creeds, about inviſible
" myſteries, that we calumniate one another,
" and for our belief in God. We make creeds
" every year, nay every moon we repent of what
" we have done, we defend thoſe that repent, we
" anathematiſe thoſe we defended. So we con-
" demn either the doctrine of others in ourſelves,
" or our own in that of others, and, reciprocally
" tearing one another to pieces, we have been
" the cauſe of each other's ruin."

HÆRETICI.] " centur. Hæretici ergo ſunt, ſed non
V. 13. " ſcientes. Denique apud nos ſunt hæretici,
16. " apud ſe non ſunt. Nam in tantum ſe catho-
" licos eſſe judicant, ut nos ipſos titulo hæreticæ
" appellationis infament. Quod ergo illi nobis
" ſunt & hoc nos illis. Nos eos injuriam divinæ
" generationi facere certi ſumus, quod minorem
" patre filium dicant. Illi nos injurioſos patri
" exiſtimant, quia æquales eſſe credamus. Veritas
" apud nos eſt; ſed illi apud ſe eſſe præſumunt.
" Honor Dei apud nos eſt: ſed illi hoc arbi-
" trantur, honorem divinitatis eſſe quod credunt.
" Inofficioſi ſunt, ſed illis hoc eſt ſummum reli-
" gionis officium. Impii ſunt, ſed hoc putant
" eſſe veram pietatem. Errant ergo, ſed bono
" animo errant, non odio ſed affectu Dei, ho-
" norare ſe dominum atque amare credentes.
" Quamvis non habeant rectam fidem, illi ta-
" men hoc perfectam Dei æſtimant caritatem.
" Qualiter pro hoc ipſo falſæ opinionis errore
" in die judicii puniendi ſunt, nullus ſcire poteſt
" niſi judex. Interim idcirco eis, ut reor, pa-
" tientiam Deus commodat, quia videt eos, etſi
" non rectè credere, affectu tamen piæ opinionis
" errare. Salvinus. $\frac{162}{339}$.

This biſhop ſpeaks here of the Arian Goths and Vandals: " They are, ſays he, Barbarians,
" who have no tincture of the Roman politeneſs,
" and who are ignorant of what is very com-
" monly known among other men, and only
" know what their doctors have taught them,
" and follow what they have heard them ſay.
" Men ſo ignorant as theſe find themſelves un-
" der a neceſſity of learning the myſteries of the
" goſpel, rather by the inſtructions that are given
" them, than by books."

" The tradition of their doctors and the re-
" ceived doctrines are the only rule they follow,
" becauſe they know nothing but what they
" have taught them. They are then heretics,
" but they know it not. They are ſo in our
" account,

17. " account, but they believe it not; and think
" themſelves ſo good catholics, that they treat
" us as heretics, judging of us as we do of them.
" We are perſuaded that they believe amiſs con-
" cerning the divine generation, when they
" maintain the ſon is inferior to the Father;
" and they imagine that we rob the Father of
" his glory who believe them both to be equal.
" We have the truth on our ſide, and they pre-
" tend it is on theirs. We give to God his due
" honour, and they think they honour him bet-
" ter. They fail in their duty, but they ima-
" gine they perform perfectly well; and they
" make true piety to conſiſt in what we call
" impious. They are in a miſtake, but with a
" great deal of ſincerity; and it is ſo far from
" being an effect of their hatred, that it is a
" mark of their love of God, ſince, by what they
" do, they imagine they ſhow the greateſt reſpect
" for the Lord, and zeal for his glory. There-
" fore, though they have not true faith, they
" nevertheleſs look upon that which they have
" as a perfect love of God. It belongs only to
" the judge of the univerſe to know how theſe
" men will be puniſhed for their errours at the
" laſt day. Yet I believe God will ſhow com-
" paſſion towards them, becauſe he ſees their
" heart is more right than their belief, and that,
" if they are miſtaken, it is their piety made
" them err.

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